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THE
USE
OF
SEA VOYAGES
IN
MEDICINE.

By EBENEZER GILCHRIST, M. D.

The SECOND EDITION,

WITH

A SUPPLEMENT,

Confirming the said USE, with further Instances of its Success.

L O N D O N,

Printed for A. MILLAR, and D. WILSON
and T. DURHAM, in the *Strand*.

MDCCLVII.



P R E F A C E.

TH E notion that living at sea might be a proper remedy, was early embraced, on an occasion that gave me some cause of concern. What at first was indulged at times, in great uncertainty, and often as an amusement only, after more mature reflexion, obtained greater evidence, and became a matter of serious enquiry. The subject, from a slight view of it, does not promise much information, or appear of importance enough to merit a formal disquisition: but, duly considered in all circumstances

and relations, it leads sometimes into a diverting train of reasoning, and suggests an agreeable variety of things, both in conjecture and experience, not altogether unworthy, it is hoped, of attention.

It was owing to something of necessity and chance, more than choice, that these things were committed to writing. To know what in a scientific way could be said on the head, those to whom I communicated my sentiments might expect and demand. But in consequence of some trials made of it, I had every where, in all proper cases, recommended failing, which few I found were disposed to comply with. Every one could not discern the propriety of it as a remedy; some doubted of its being safe in
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the cure of diseases, and indeed it seemed generally to be suspected, because uncommon. For these reasons, and having searched into the opinion of authors concerning it, I thought I was in some sort called upon to vindicate, in this manner, a practice I so much endeavoured to promote, by giving some instances of its success, and shewing on what principles it is founded.

It is not pretended that what is here offered is in every part perfect, or perhaps in any. The whole is to be considered as an attempt to enlarge and explain a part of natural knowledge, which, with respect to medicine, has not been treated of either as a matter of curiosity or use. And to treat it in both views gives room,

purely as it may gratify the inquisitive, to say some things some I am afraid will think unnecessary, and others the truth of which future experience must ascertain, or it may be will altogether disprove. The general intention is mainly to be regarded.

The histories I have given of cures by living at sea, together with the authorities adduced in support of it, and these the most respectable, are a sufficient ground for farther experiment. All, I imagine, that has been said on the subject, or may be said with reason and probability, I have brought together; that, having every thing before him, the reader may be enabled to judge what place this unusual remedy deserves in medicine, and how far it is capable of being improved into a more certain method
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of practice. With me it has not, in its good effects, fallen short of those expectations I was disposed to entertain of it; and from it I have not, at any time, observed any bad effects.

For all the purposes of daily practice, we are provided with ample store of familiar remedies, well suited to the several intentions of cure, in most cases. But in higher cases, and some particular diseases, when the whole frame labours vehemently, or some part eminently is affected, how often is there wanted a remedy of higher and more appropriated virtues, without which nature in the unequal struggle must sink; and, art at a stand, the sick are left to the uncertainty of a very remote chance for life, or absolutely resigned helpless, to

all the distress and despair of a melancholy impending fate. And to succour nature effectually in her greatest exigence, an unalterable adherence to the commonly received rules of systems, or a method, will not, I persuade myself, be always insisted on.

The introduction of new remedies, or the revival of such as are fallen into disuse, or have never much obtained, is always attended with difficulty; partly from the aversion that generally prevails against them; partly because the skill or caution of the prescriber will naturally be called in question; or, which one would chuse to avoid, he may fall under the imputation of singularity.

Medicine, it is evident to me, has suffered no small loss, by the neglect so much of antient remedies; some of which, however dreaded by many or abhorred, I have observed to be altogether proper, and of singular benefit. A liberal use of wine in fevers, the bare mention of it, I remember, at a time, raised often great suspicion and wonder. An early acquaintance however with its usefulness, gave me an opportunity to deliver it as my opinion, that in all great cases, wine, and chiefly wine, was to be depended on, while an useless heap of nauseating remedies must be thrown aside. This is not confined to fevers properly nervous; but extends, with due restriction, to all fevers of a low denomination, eruptive or otherwise; in which it has, in the habitual use of it, yielded me constant satisfaction.

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Another great resource in fevers I judged bathing the whole body to be; and from reason urged it as worthy at least of consideration. Fear, and a false regard to reputation, long withheld me from making trial of it. Much might be said upon it: I shall only at this time relate, in a short appendix, the effects of it in a few instances, with remarks; in order to prompt others, and remove their prejudices who are apt to reject this kind of assistance, as troublesome or indelicate, which is an objection of small moment; or as dangerous, which I know it is not.

What reception this, another grand remedy of antiquity, which is the occasion of the following treatise, will
meet

meet with, I cannot at present conceive. How earnest soever I may appear to set forth the advantages of it, in which I am not alone, and even though I have had a good many proofs of its fitness and efficacy, until greater observation confirm more its use, I shall not, as to a general use of it, be too confident. One thing, without fear of contradiction, I may venture to say; suppose failing, upon a sober examination, admitted to make a part in the medical advices of this day, fashion, I believe, will not soon declare on the side of it. It is a remedy for those only who really stand in need of a remedy; in diseases that too often are known to resist the force of all remedies; and to comply with it to the utmost that sometimes may be necessary, will require a degree of
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reason and fortitude, beyond what the small feelings of flighter ills, or a mere modish affectation of being ill, can ever inspire.

In the chapter of the right use of sea voyages, I just make mention of remedies to be used in conjunction with living at sea. It was intended once to have exhibited processes in some diseases. But how acceptable this would have been, as I can say nothing from trial, is uncertain ; and better methods I shall not doubt may be known to others, or what is proper will readily occur. It seemed moreover to be beside the purpose, the design being to shew what living at sea will of itself do ; and that it may be safely employed as a powerful adjunct at least, if not solely sufficient,

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in the cure of some very obstinate, or for the most part mortal distempers. A consumption I have had all along principally in view, and hints are every where scattered relating to it, which in many places make a considerable part of what is said; and will not, I presume, be reckoned foreign to the design, in treating of a remedy so much adapted to the cure of it. Nor will I so far circumscribe myself as not to take notice of every thing that materially respects this.

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T H E
USE of SEA VOYAGES
I N
M E D I C I N E.

C H A P. I.

Of the constitution of air at sea.

TH E powerful influence of air on animal bodies, as the universal means of life and health, and the cause of diseases, daily observation shews; and medical histories are full of it. No effect so great but may be expected from a fluid possessed of such mighty properties, gravity and elasticity, in constant motion, and continually pressing us, and on all sides. A fluid besides endowed with many adven-
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titious qualities, derived from heat, and cold, and moisture, and the various corpuscles of different natures mixed with it, and their effervescences.

For from the whole terraqueous globe there are constantly arising in steams, more or less perceptible, innumerable particles of matter; being parts of all bodies that earth and water contain.

These exhalations must therefore differ greatly, according to the soil, minerals, and other substances that abound in different places; and will affect the bodies of animals differently, according as these things are in their nature hurtful or salubrious. Hence the cause of healthful and unhealthful situations is deduced; of endemial and popular distempers; as well as of singular diseases happening from a particular situation, and hurtful to particular habits.

Accurate accounts have been given us of the constitution of air in general. The constitution of air at sea particularly, has not, that I know, with a view to practice, been taken notice of, in all those circumstances which render it, I think, very different from that at land. A more exact knowledge of
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this is previously necessary to an enquiry into the uses of living at sea, as they respect medicine.

1. The vast extent of sea, is to be considered, spread over one half at least of this terraqueous globe, perhaps more. From this wide extended surface of water a great quantity of vapour is continually ascending: much greater in proportion than from earth. In the Mediterranean only it is, according to computations, 5280 millions of tons in a summer day; and farther south, where the evaporating causes are perhaps stronger, the quantity will be still larger. But heat is not the sole cause of evaporation; it goes on equally in extreme cold. That there might be a constant supply of vapour, every where, and at all times, for some great purpose in nature, fluids evaporate as much, and of the spirituous parts more, in frost, or in freezing, than in warm weather. Sea air then is more humid.

2. Vapours from the sea, or rivers, generate a much greater quantity of air than the exhalations at land: therefore it is that winds blow more frequently and variously at sea, and with respect to land from the sea.

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Hence, in Britain, we have them two thirds of the year in some of the southerly or westerly points. The sea being a greater source of air, we find the cause likewise, why storms continue longer at sea than at land.

3. Exhalations at land are from numberless different substances; and in a small tract of country we shall find the air very different in qualities, and of a different temperature as to heat and cold. But air at sea is not impregnated with such various exhalations, the vapour being always of one kind, the subject from whence it is raised being uniformly and universally the same. This vapour likewise, exceeding greatly in quantity, will not be affected by the many and different exhalations at land, at any considerable distance at least, or to any degree. Sea air, therefore, is more compact, because more simple, and consequently more elastic.

4. Air at sea is better ventilated, or has in general a quicker and more constant progression; because there are no impediments to its course, as at land, by mountains, hills, forests. For this reason it is more agitated, and purer, in opposition to that foulness it contracts by stagnating. That there is a
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stagnation more frequently at land, is evident from the clouds and haziness observed for the most part above land, and mountains, by which sailors discover land at a great distance. The stagnation of air, even when not agitated by winds, is farther prevented by the many currents, and constant flux and reflux of the sea. On account of the greater humidity then, and density, and quicker progression of air at sea, there must be an increased action of it. Winds therefore are here more violent, and have greater force, than at land; especially as they are besides often charged with much saline matter: For,

5. A great deal of sea salt is raised in the spray, tossed up thick by winds, and impelled: and in an atmosphere filled with a strong saline humidity, do sea-faring people, often for weeks or months, live and breathe, and have their bodies therewith constantly almost wet.

6. Sea air is warmer. Those at sea seldom complain of cold, but are very sensible of a change when they come into foundings; much more for some days on their first living a-shore. Earth is a dead inert body,

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and cannot, by the greatest force of the sun, be heated above a few feet deep, and is very soon cooled again. This great body, so cold in itself, must cause a colder atmosphere, so far as this extends, and cool the sea to a considerable distance. Sailors suspect land by the coldness of the sea, which still increases the nearer land. Winds brought over great tracts of land, or where frost and snow abound, are filled with rigid chilling parts. Hence it is that north and east winds are so cold; while those from the south and west, where there is nothing but sea, I speak in respect of our own situation, are for the most part mild, and cherishing, and warm. Their greatest heats, on the contrary, in those parts of America, nearest to us, are brought by east winds, blowing over a vast space of sea. The sea coasts with us, even pretty far north, are rarely subject to hard frosts, or lying snows. In such places they have more open seasons, and early harvests. Were not the sea warmer, seafaring people could not, but with the greatest hazard, bear to be so often wet with it *.

* Winds in some places have very opposite effects as to heating and cooling, for they are not always really

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7. There is in the air at sea a constant undulatory motion, corresponding to that of the sea, whence a greater collision and con-

so according to our sensation of them. In the East Indies the land wind is close, sultry, and parching, so that there is no living abroad ; and every body secures himself against it with shut doors and windows. But when the sea wind blows, it is cool, refreshing, and comfortable. This seems to contradict what is said of winds above. There is another observation, however, not a little curious: the manner of cooling their wine, is to hang it up in a wet cloth, exposed to the land wind, which, though felt hot, gives the liquor an agreeable coldness, and makes it fit to be drank with pleasure. Exposed to the sea wind, in the same manner, it becomes disagreeably warm. That air so hot to the sense should cool, and cool air heat, is a paradox ; but admits of an easy solution. The scorching heat of the land-wind arises from its blowing over vast deserts of burning sands ; or the atmosphere, perhaps, being loaded with a variety of sulphureous, aromatic, dry parts, exhaling from a great tract of land ; potentially let us suppose hot. The sea breeze is owing to air, raised statedly fresh, and in greater quantity from the sea, or some how put into motion ; which joined to the moisture, causes the coldness of it. But these different winds, notwithstanding this contrariety of effects, retain still their proper nature ; that is, air at land is certainly cold, while at sea it is, in the general constitution of it, warmer.

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quaffation of air ; and an increased impetus of it in a percussive way.

8. That there is a true specific difference betwixt air at sea and air at land, will be more evident by endeavouring to discover the nature of sea vapour. The notion is too limited, that the prodigious quantity of vapour raised, was intended only to supply this earth and atmosphere with water, being vastly more than sufficient for these uses. If some other purpose is to be served by it, it naturally occurs that it must contain something else than water.

And that a portion of sea salt may be raised in the vapour seems not improbable, all effluvia being, more or less, the formal substance of those bodies from which they are raised. Nature has secret methods of raising and dispersing salts through the universe ; and wherever there is plenty of such matter, and the means for working upon it, there these salts must be raised plentifully. Therefore at sea, and in the regions where much rock salt is found, there must be at least an equal quantity of effluvia from common salt, as from other the like substances, which in great abundance are discovered in the air.

Though

Though evaporation caused by heat, may not perhaps raise much fossil salt, the winds skim off a fine pellicle, or lick up the surface of the water itself. The lesser saltiness of the surface water is attributed to the exhalation of the salt; which shews that, however fixed, by the common exhaling causes, which are able to operate upon bodies the most ponderous, it suffers a dissipation.

But as more disposed to be exhaled, and abounding in the sea, the oils, bitumen, and sulphur, will, in great quantity, be attracted too. This the smell of sea water confirms, as all smell imports something more than mere water, which is inodorous. Incorporated with air they are the cause of many appearances, the most considerable in nature. These sulphureous oils being in some degree viscous, must involve some particles of salt, which will thus in the vapour be carried up likewise.

A great deal of bittern salt *, which is of a more volatile kind, is believed to be

* Bittern is the lixivium which remains after making common salt. It contains different salts, particularly much nitrous salt.

raised also at sea; and, dispersed in the atmosphere becomes the parent of other salts. It is said to enter largely into the composition of the nourishment of plants and animals. All nature is stored with salts: these must be derived from some grand source. Salt abounds most in the sea; and they confine the uses of it too much, who say that it is only to preserve the waters of the sea from corrupting, and to serve alimentary and mechanical purposes. One great design, it is reasonable to think, of the immense vapour, is to take up, and fill constantly the air with a variety of saline corpuscles, to answer one mighty intention of nature, the propagation of salts through the universe.

Even the notion of an analyfation at sea has obtained, and that more or less of an acid spirit is constantly ascending in the vapour: which the extreme corrosiveness of sea air, in more southerly climates, destroying very soon all metals and stony bodies, gives ground to conjecture.

C H A P. II.

Of sailing as an exercise, compared with other exercises.

VARIOUS are the exercises that have been contrived, or adopted for the use of medicine. They may be distinguished into those that are performed by a voluntary muscular action, and those in which the body is passive. Of such approved efficacy are all the gymnastic methods, that one or other of them becomes more or less, solely sometimes, a cure in most diseases. And that these might be rendered more certainly beneficial, they are now carefully appropriated to the particular distempers in which, from experience, they have been found useful.

Walking has been judged best for the purposes of nutrition, the distribution of the chyle, and plumping up the solids ; and is the proper exercise of the studious. It is said moreover to be the fittest to preserve health; while riding is thought to be of most use to restore health, and where it agrees, is a manly cheering exercise, and therefore is
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more especially adapted to the low spirited and hypochondriacal. The particular condition of the gouty and corpulent, admits only of vehicles, or the exercise of the voice. The weak, hectic, and phthifical, as they can bear no other, are directed to use the most gentle, such as friction and gestation.

Not only is the kind of exercise prescribed in particular diseases, but the necessary conditions, as they respect the time, the degree, and many other circumstances, are with no less caution enjoined. Every kind and degree is not fit for every constitution; far less in every distemper they may be affected with, or at all times. In the choice of exercise, therefore, many things are to be attended to, in order to know which, in particular circumstances of habit or distemper, is most proper and preferable.

Whether we consider it in itself, or as accommodated to certain diseases, in which it seems eminently a cure; there is no exercise, I have long thought, deserves more our attention and enquiry than sailing; not without wonder that, while other exercises have been improved into very extensive use,
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one, having such manifest advantages, should be so little regarded, or so little recommended, in a nation especially so much maritime as ours.

1. The first thing observable in sailing is the sickness. This does not arise from any offending matter in the stomach or intestines, but happens from mere consent of nerves, affected in their origin, by the commotion of the parts within the head, from the unusual motion.

2. One is carried very quickly, and often driven in the air, and frequently against adverse winds, by which the pressure and action of air is much increased.

3. The volutory and tossing motion of the ship is a great addition to the exercise, as thereby one set or other of muscles is constantly kept in action alternately, through the whole body, in order to preserve the equilibrium.

4. The air suffering a constant undulatory motion, corresponding to the undulatory motion of the sea, is an uncommon circumstance, and makes a considerable exercise of itself. Besides the ordinary gravity and pressure of air, an increased action of it will be impressed

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impressed on the body, from the manner of its application, in repeated shocks, sometimes on one part, sometimes on another, as if from an alternate bending and unbending of the air : so that while one part of the body sustains a strong pressure, another suffers only an ordinary pressure, or less ; and sometimes the body is squeezed betwixt contrary pressures. We form some notion of this from the action of a fulling-mill.

Sailing seems to correspond with most other exercises, in their manner or effects.

It resembles walking, in the gentle, constant action of muscles with which that exercise is accompanied. The benefit derived from riding depends on the continued succussion one suffers, and being carried with considerable quickness in the air. Now there is a greater succussion in sailing from the vomiting ; and, driven by winds, one is carried with greater quickness than in any ordinary exercise. At sea, again, there is, from the ship's motion, a very various action of muscles, and the body is put into all those constrained attitudes which are observed in bowling, and the like exercises, and in common labour. Exercise in a swing, or in a coach, which
sometimes

sometimes causeth vomiting, come nearest to failing; as does likewise our first exercise, the cradle.

Sailing, then, is a compound exercise, of gestation, and that of a particular kind; a preternatural spasmodic motion in vomiting; and a singular action of air; which advantages no other exercise can, in so many and uncommon circumstances, lay claim to.

It is constant; for as the ship is in perpetual motion, day and night, sleeping and waking, one or other of these exercises takes place, and the body is continually under the power of it; contrary to all other exercises, as commonly enjoined, in which the sick are for a short while only at a time employed, and the exercise has great intervals.

Though failing, considered in its complex circumstances, and great effect, is reckoned among the highest exercises, so as in some to cause great perturbation, it is really, after being used to it, the most gentle, and excites no irregular motion, or undue impetus of the fluids. Therefore it is not attended with lassitude, or loss of spirits, as other exercises often are. Other exercises of efficacy cannot
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be undertaken by those who are weak and wasted, in a fever, or state of colliquation, and in many other cases; and lower exercises are insufficient for any great purposes of cure. But sailing is of mighty energy, yet safe; and, except the sickness at first, is easily sustained. Scarce any circumstance of a disease, in which it is proper, can forbid the use of it; while the frame of body, or mind, is not too much broken, or some part corrupted; even in this last it is sometimes highly proper.

To all these, as farther advantages, we may add, that one is constantly breathing a peculiarly salutary air; the action of air is greater, and increased by being often carried in it with great velocity. There is likewise a greater action of muscles, of all the muscles of the body, of muscles not exercised in other ordinary exercises, or not exercised in the same manner, nor so forcibly, nor with such effects and continuance. Neither, in undertaking it, is there occasion for so many precautions as are necessary to be observed in other exercises. A safe, easy, and effectual one seems, by the neglect of this, to have been wanting in medicine.

C H A P. III.

Histories of cures by living at sea.

HISTORY I.

Consumption.

A Young gentleman, whose mother, and an elder brother, had both died of a consumption, lost his appetite wholly, his flesh, and, which alarmed him most, his strength in a great degree. He had a dry husky cough, a fever with night sweats, a meagre countenance, and a high hectic flush; in short, seemed to be following fast the fate of his brother; being altogether of the same delicate complexion, temper, and make, and near the same age. I judged it vain, and a losing of time, to go the same formal fruitless round with this brother I had done with the other, but just before; and I had no hopes of a cure but by a speedy check given to the disease, in this stage of it, now pretty far advanced. I advised a sea voyage. The first day at sea he had a sharp appetite, which increased so much that, in a few days, he

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could eat heartily the ship's provisions at every meal. He coughed very little. The noise hindering sleep, he frequently walked on deck in the night without hurt. It blew so hard all the voyage, which was twelve days or more, that the crew were sick; and once they were about to leave the vessel, or run her ashore. He was not sick; and found himself so well, when he got to Bristol, that he complained of nothing. But having the opportunity, he drank, as had been directed, the Hotwell three weeks. After being a month longer at sea, coming home, the weather all the time blowing and foul, he returned, near the end of November, fat, hale, and strong; and has continued ever since in perfect health, without any apprehension of the return of his distemper; the time of life, which exposed him most to danger being long ago past.

HISTORY II.

Consumption.

A STRONG healthy plump young woman, assisting to extinguish a fire in the night, wrought very hard, with scarce any clothes upon her, for some hours, was excessively

cessively heated, and sweated profusely. When the affair was over, she had no care to go to bed, or cool herself gradually, but shifting, went about her ordinary business. In a few days a hard, dry, tearing cough seized her, with great difficulty in breathing; which increasing, in a short time, wasted her extremely. All winter and spring she continued in a way that, considering the greatness of the disease, and the greatness of the cause, gave no hope, but from the disease growing chronical, the symptoms not increasing, and a better season coming on. At length, after a tedious use of many remedies, as they were indicated, in summer she got free in a good measure of the cough, and recovered flesh, and a tolerable state of health. But her breathing was bad, and easily affected by motion or labour, which presently overcame her. In this way, better and worse, she continued some years, upon the whole gaining more health. When, contrary to expectation, she had now recovered a sort of settled health, in summer, without any sensible cause, the cough returned, with greater violence than ever; attended with profuse night sweats, and looseness, and under

these a prodigious loss of flesh and strength. Nothing was able to restrain the rapid progress of the disease. After much scruple, for she was now exceeding weak, and the symptoms great, I advised a voyage; with more freedom at last, as she was fond herself to try it. She returned in two months in perfect health; except that there seemed to be still some small difficulty in breathing; but not the least impediment in labour or exercise. Soon after she married, left her own country, suffered hardships and vexation, bore a child, became consumptive, and died.—When I say a voyage lasted so long, for the most part they were not a third of the time at sea.

HISTORY III.

Consumption.

A YOUNG man riding all day wet, took cold. In a little time a severe, dry, frequent cough came on, with short breathing, constant fever, and a discharge of much watery phlegm from the parts about the wind-pipe, from the constant labour in coughing. Notwithstanding all that could be

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be done to subdue the fever, &c. after six weeks no ground was gained; and a consumption seemed fast approaching. A voyage to sea was proposed. They had not proceeded far, till, by the shifting of the wind, they were obliged to put in again; and rode twelve days in an open bay, exposed to the south, the weather and season favourable. Here living in the sea air, and suffering the gentle exercise, the symptoms abated so much that he laid aside his design of going to sea, and from this time daily recovered; nor has he ever had the smallest tendency to a relapse, though it is now several years since.

HISTORY IV.

Consumption.

A YOUNG gentleman caught a severe cold in winter, which was soon succeeded by a vehement, continual, dry, hoarse, hollow cough. Not recovering, though somewhat better at times, in spring and summer; he made a long journey in autumn. It was then I first saw him. The cough remained, with short breathing,

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heaving of the shoulders, and inability to make a full inspiration. He had frequent faintness, and sickness, and was extremely wasted, without fever, loss of appetite, or any increased evacuation. This wasting resembled nothing so much as the aridity of old age. Two or three months, if so much, was the utmost he could live in this country. He went to sea immediately. The first seven days he found no alteration, only a better appetite, which on going ashore ten days grew worse. About a week after this, going to sea again, the cough abated, and was very little troublesome the rest of the voyage; his appetite increased, he gained good spirits and strength; and six or seven large boils suppurated below his armpits before he reached Lisbon, which was thirty-seven days from his going on board last; contrary to what had been advised; for I proposed living at sea altogether, if it agreed: he was persuaded to stay there in the country, where he continued slowly to recover, but not to such a degree as he had flattered himself. He returned, however, in May much better, yet not so well as to make it safe for him to live in Britain, during the winter, which he
passed

passed in Italy. The beginning of summer he came home, in all respects well; except for some remaining cough, which may expose him to danger: but this he hopes to wear off by going for some time on a sea-faring life; having always found the most sensible relief from coughing, and best health at sea; and as sensible a decline, on being two or three weeks ashore. This last voyage, which lasted seven weeks, he thought did him most service, though the weather was all the time stormy, and restored him to something like a confirmed state of health.

HISTORY V.

Nervous pain of the stomach.

A YOUNG gentleman bred to the law was subject to a pain of the upper orifice of the stomach, derived perhaps from one of his parents, constitutionally disposed to nervous complaints. A sedentary life, and much writing, increased his ailment, which at last became constant and severe. He was rendered incapable of all business. Two years he passed in this state, with very little remission, and scarcely ever an interval from pain;

and some worse disease was apprehended. Every thing commonly prescribed and recommended in such cases was tried, nor were singular remedies omitted, but all without effect. He went to sea the end of September, and was severely sick all the time he was at sea, but soon found benefit; and having been absent near three months he returned free of all complaint. Two years after he had small returns of his illness. He went another short voyage. Since that, and indeed, from his first going to sea, he has always been able to attend close to business.

HISTORY VI.

Vapourish languor and fever.

A YOUNG gentleman, whose father was of a lax phlegmatic habit, grew very fast, so as at sixteen or seventeen years of age to be uncommonly tall. From this quick growth, and a derived constitution, he was slow, languid, and unable to bear labour or exercise. A vapourish kind of fever seized him. He had pains of the stomach and sides, the parts very tender to the touch, with a sore or bruised-like pain all round the chest internally,

internally, which made it difficult to turn himself in bed. A slow lurking fever attended, with costiveness and palpitation. The tongue was white, foul, and moist. He had little thirst, but great inappetency and languor. A fortnight or more scarcely finished all this; nor did he recruit from one fit till he was seized with another; and the disease in this shape, having frequent relapses, became in some sort constant and habitual. He was intirely laid aside from business. I had seen him recover in some measure from several fits, but could not fall upon a method in the ordinary way to prevent a relapse. I advised to send him, in the intervals, to sea. He made two or three short voyages, with much advantage to his strength and spirits, which before he could never recover betwixt the fits. Growing stronger, he had seldomer returns of his illness, which was soon altogether removed; except that for some years he has had a stated annual fit. This he does not make so much account of, as to think it necessary to go any more to sea; enjoying, at other times, as good health as a constitution somewhat delicate will allow.

HISTORY VII.

Consumption.

A GENTLEMAN caught cold in Virginia, under which he laboured seven or eight months. He came over to Britain in winter, and was sensibly better on the voyage. He coughed much, had great stuffing and constriction of the breast, and labour in breathing; and upon any increased motion spit blood. He had night sweats, and was a good deal wasted. I had scarce any farther hopes than to keep him from growing worse till a better season. Though by the use of remedies, and a very exact method of diet, he found great relief, there was but small prospect of recovery. A consumption had been fatal to his family. In May he went to sea again. The information I received on the return of the ship was, that he grew in all respects easy; so well during the voyage, that he thought himself at liberty to return to his ordinary way of living; and when he got to Virginia renewed cold bathing, which he had formerly been accustomed to. Soon after he was taken suddenly ill on a journey, and died in a few days.

HISTORY VIII.

Consumption.

A GENTLEMAN was, during the late war, taken by the French, and obliged to lie several nights on a cold wet deck, and was afterwards thrust into prison. Here he contracted a violent cold, with great cough, fever, and wasting, which continued several months, having all the appearance of a consumption ; till, on going a voyage to Jamaica, he recovered intirely at sea.

HISTORY IX.

Consumption, with purulence and spitting of blood.

A YOUNG gentlewoman, of a delicate florid complexion, fell into a consumption, of which her mother, a brother, and a sister, had before died. She had for some months a troublesome night cough, sweating, frequent spitting of blood, suppuratory fever every two or three weeks, and large discharge of pus. An uneasy pain of the left side of her breast was not her smallest complaint. By
the

the use of remedies she seemed to mend considerably ; but, not amused by the flattering appearances of an insidious distemper, I prevailed with her to go to sea. Here she found herself much better. Being obliged to live on shore some days, in very hot weather, and a close place, she was seized again with spitting of blood, which she had been free from a long time. Coming home the ship put into a harbour, and was wind-bound a month. As I had advised, she now sailed every day in a boat. Her return gave me equal pleasure and surprize. She had recovered her flesh and looks, and none of her complaints remained, but a small degree of hoarseness. She would not be persuaded to go to sea again, saying she was very well. In winter she had some slight returns of spitting of blood and matter, but was every way much easier than she had been the winter before. In spring a fever, then epidemical, seized her, which she got over ; but from this time languished, became wholly consumptive, and died.

HISTORY X.

Suppurations of the lungs.

A STRONG labouring man was, from a weight falling upon his breast, taken with a spitting of blood, which frequently returned, and sometimes he spit a pound or two at a time. He had frequent suppurations, and great discharges of pus, and was so weak and emaciated that during the suppurations he was confined to bed. Under a strict regimen, and abstinence from spirituous liquors, which he had used too familiarly, in summer he made two or three short trips to sea. From his first going to sea he had no returns of spitting of blood; the matter was gradually dried up; and he recovered to a considerable degree his health and strength: so that in October, when I happened to see him, he had a hale look, there were no remains of fever, and he was able to go about freely, but not to follow his ordinary labour. A little cough still remained. In winter he was obliged to ride to a good distance, in great haste, and bad weather; by which he caught cold. A new suppuration came on; and under
large

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large purulent spitting, constant fever, and sweating, he wasted fast, and soon died.

HISTORY XI.

Megrim.

A GENTLEMAN, a great while ill of a megrim, was obliged, but without any regard to his distemper, to go to sea; by which he was cured, though the voyage was but short, for ordinary only a few hours sail.— In some diseases of this kind, sailing seems to be a fit remedy, whether it be an original disease, or by sympathy from the stomach, where often the cause of it resides.

HISTORY XII.

Consumption from a pleurisy.

A YOUNG gentleman, many years ago, after a violent pleurisy, from which he very hardly escaped, with great loss of blood, was now in equal danger from the consequences of it. The pain of his side continued, severe cough, and large expectoration; attended with profuse sweats and great wasting. Under these he laboured a twelve-month, or
more.

more. In summer the sweating and expectoration abated, but a hard dry continual cough remained; and so great was his weakness, and difficulty in breathing, that he could not bear the smallest exercise, even but walking, without frequently resting. He undertook a voyage of five or six weeks, and in a few days became easier. The cough ceased, his appetite increased, and he recovered flesh and strength; so much that, coming home, he often did the business of a common sailor for his diversion; and the shortness of breath went off. On his return he found himself in good health; and, by going to sea, once a year, for three or four times, always with sensible benefit, has continued so; except that in frost, or when the wind is in the east, he is subject to a cough, and straitness in breathing.

HISTORY XIII.

Rheumatism and nervous disorders.

THE following history I give in the gentleman's own words, one no less dear to me on account of real worth than relation.——

“ For two years I languished much, from a
“ great

“ great relaxation of nerves, occasioned, I
 “ suppose, by living so many summers in a
 “ warm climate, and from fevers and agues,
 “ with which I seldom failed to be attacked
 “ three or four times a year, which I believe
 “ had corrupted the whole mass of my blood.
 “ I suffered extremely from pains of my back,
 “ thigh, arms, and shoulders, so that I could
 “ scarcely raise my body, or stand upright;
 “ and was obliged often to get out of bed two
 “ or three times in the night. All these caused
 “ a loss of appetite, flesh, strength, and com-
 “ plexion; attended with great lassitude, and
 “ disinclination to business. For this com-
 “ plicated disorder I took great quantities of
 “ medicines, and used warm baths, and dry
 “ cupping, but without any real service. Just
 “ going on my West-India expedition, I was
 “ taken with a violent pain of the left side of
 “ my breast; for which I was blooded, and
 “ applied many things externally and inter-
 “ nally; which, not answering the intention,
 “ first one blister, then another, were applied
 “ to the part, and with no effect. Before the
 “ last healed I was obliged to go on board.
 “ By the time I had been five days at sea my
 “ appetite grew better. In ten or twelve days
 “ I found

“ I found myself considerably stronger,
“ though I observed no regimen in diet, nor
“ did I take any medicine whatsoever. The
“ pain of my breast continued, but not so
“ violent. I grew however daily better, both
“ during my voyage to St. Kitt’s, and while
“ cruising among the Leeward Islands; so
“ that when about to return, I was grown
“ quite fat, and had got a good complexion,
“ and felt no pain of my breast, but on mak-
“ ing a full inspiration. After my return to
“ Virginia the pain returned likewise, and
“ continued to increase till I went to sea
“ again, when it again abated, so much in a
“ fortnight that it gave me little trouble. I
“ had been but a short time in Britain till it
“ increased greatly; and though, by the ad-
“ vice of some of the most eminent of your
“ profession, I have found relief, it is still re-
“ turning. On going to sea again I hope to
“ get free of all my ailments.”—This disease,
changing its seat, became a nervous head-
ach before he left Britain, violent and of
long continuance, which required frequent
large bleeding, and was much increased on
going to sea, by the motion of the ship.

HISTORY XIV.

Consumption.

A GENTLEMAN, whose sister died lately of a consumption, was subject habitually to a cough, which increasing, with large expectoration of thick sweetish matter, grew very troublesome, in the night especially, and wasted him much. During a six weeks voyage, from his first going to sea, he never almost coughed. But on going ashore he lay in damp sheets, got cold, and the cough became again very uneasy. He returned notwithstanding, in winter, fat, well-coloured, and strong, and continued so a twelve-month. After this the cough increased, a true purulent spitting came on, he had frequent large hæmorrhages from the lungs, and under the best means I could devise the event proved fatal.— It is presumed that, by sailing, a consumption was, in this case, a considerable time prevented, and might have been kept off much longer, or a cure perhaps obtained, had not an accident caused a return of the cough, and this method of sailing been ever afterwards declined.

HISTORY XV.

Ulcer of the breast and lungs.

A GENTLEMAN, by a kick of his horse on the breast, fell into a spitting of blood, which frequently returned, attended with a large purulent sanious discharge, mixed with many pieces of membranes, and a sense of weight and foreness of the part internally. Thus he continued, wasting and languishing, several years, in the use of many remedies, prescribed by those of greatest skill in different places; nor was he, except once for the space of one month, free for any time from these discharges. After coughing up larger pieces of membranes, the discharge ceased again for some weeks, which gave him hopes he was now to have no more returns. I insisted, however, on his going to sea; using for argument, that this was a proper time, and method, to assist nature, compleat a cure, and regain his former health. He was absent only a few weeks, eighteen days of which he was at sea, and one fortnight ashore he drank milk, but returned surprizingly mended. He had got a great deal of flesh, and a

ruddy complexion, and was able to walk several miles without being fatigued, who before found it difficult to go about slowly, in the course of an easy business. Some years now he has been free of all complaints.—

Was living at sea a cure here, or did it only serve to confirm a cure? It must be owned it was undertaken at a lucky time. Would a journey by land have had such a remarkable effect, in such a short time, or a much greater, even but in the view of restoring him from a mere languid state, after so long want of health? Would it have been as safe, and as easily sustained, in such a delicate diseased state of the lungs, and such a degree of weakness?

HISTORY XVI.

Doubtful and difficult recovery.

A PERSON of distinction, on account of a complicated and seemingly desperate illness, entered upon a long course of medicine, which nothing but uncommon resolution, and original soundness of constitution, could carry him through. Before the disease was half subdued, an epidemical dysentery severely

verely seized him, which interrupted the course, and gave opportunity to the former disease to strengthen itself, and was the occasion of the course being lengthened out some months longer. The disease being overcome, except what time and other methods, it was hoped, would carry off, many months were spent at home in order to restore him; but a slow return of health, and his continuing long emaciated, made the event doubtful, and gave apprehensions of a hectic and consumption. In the depth of winter, weak and wasted, and his legs much swelled, he beat about in the channel three weeks, in a continued storm. Putting in again he lived some weeks ashore. Most of those on board were sick during the storm but himself, whom they never expected to see the end of the voyage. He ate and drank heartily during the whole of it. Some foul deep scabs, which hitherto could not be subdued, but always returned, now threw off, and the parts healed. By the time he reached Lisbon, which cost seven days more at sea, he was almost wholly recovered; and has now long enjoyed a confirmed state of vigorous health.

HISTORY XVII.

Spitting of blood.

A YOUNG gentleman, tall, and inclining to be thin, with a soft smooth skin, and lank hair, was seized with a spitting of blood; and had returns of it to a considerable degree. After the use of some remedies, I advised him to go to sea. The voyage out was about ten days. Coming home they struggled with a heavy sea, and stormy weather, for some weeks, in winter, and a small deep laden vessel, which at last was stranded; and he lived afterwards four months in a low, wet, foggy, maritime place. Under such a threatening appearance, I thought a sea life the most speedy and effectual way, not only to secure him against a relapse, but to prevent a consumption, which, about the same time of life, had been fatal to two of his family, a brother and sister, but some years before. Neither the terror, and fatigue, he suffered from the danger he was in, nor living so long in an uncomfortable place, caused any return of his disease, or any way impaired his health. He grew fat and strong, and has now some
years

years continued in all respects, as to this disease, well.

HISTORY XVIII.

Vapourish pains, languor and fever.

A YOUNG gentlewoman, during winter and spring, laboured under pains of the stomach and belly, especially the right side, lost her appetite and strength, and languished extremely under excess of pain. She used many things, which either did no good, or she for the most part threw up. Her weakness and disease increasing, and other remedies yielding small hope, I urged a voyage to sea. Part of a letter from a reverend clergyman, her relation, will shew the effects of it. “ My
“ niece, after much languishing, and many
“ fits of pain, adventured at last to follow
“ your advice. Though she was so weak
“ and sickly that with difficulty she was got
“ to the vessel, and so very ill by the way,
“ and for some time after she landed, that
“ they were afraid of the consequence, yet
“ she recovered apace; and after another fit
“ of vomiting in her return, she seems to be
“ so much changed for the better, as could

“hardly have been imagined.”—She was five hours going out, and sixteen in the return. By this she gained so much strength, and relief from pain, as to be able to undertake riding; from which (having an aversion to the sea exercise) and change of air, and amusement, a thorough cure was expected. Summer and autumn being spent, she continued still in an uncertain way. I persuaded her to make the same voyage, and she soon altogether recovered.—Several others, under great languor, pains of the sides and stomach, flatulence, want of appetite, vomiting, and the like vapourish symptoms, have assured me that, after the sickness, they found more real ease, and freedom from their complaints, than from all they before had used, and a sensible turn was given to the distemper.

HISTORY XIX.

Consumption.

A YOUNG gentleman, studying the law, contracted a hard dry cough, which brought on profuse night sweats, with great loss of flesh, strength, and appetite. From the success of it in some of his acquaintance, who were thought
far

far gone in a consumption, he fondly embraced the first proposal of a voyage to sea. The ship was detained six weeks longer than was intended. His legs swelled, and a looseness came on. The first two days at sea he vomited much bile and phlegm. The sweating and looseness went off, and the swelling of his legs, and he could eat. He began now to spit matter in great quantities, and wasting daily, though he still retained his appetite and spirits, he died on the voyage ashore.— Had it been undertaken when first proposed, and the abscesses sooner broken, before the colliquative symptoms made such a progress, judging from the benefits received in such a weak state, there was ground to expect a longer reprieve at least, perhaps a better event.

HISTORY XX.

Asthma.

A CLERGYMAN, of the most relaxed frame, almost dissolved into phlegm, and unable to use any other exercise of efficacy, made twice a voyage to sea. His health was rather improved than the asthma bettered; which

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which in such a great disease, as this certainly was, could not be expected, as the time of being at sea was always short, nor did he suffer the sickness.

HISTORY XXI.

Consumption.

A GENTLEMAN, with ulcerated lungs, undertook a voyage. Fear and the sickness discouraged him, and he continued only eleven days at sea; and even in this short time there was an interruption, by his going ashore some days. After which he made long journeys, drank Bristol water on the spot, used all the most approved home methods, returned to his own country, and, languishing three or four months, died.

HISTORY XXII.

Palsy.

To a gentleman, in a pretty high degree of universal palsy, many methods and remedies having been tried in vain, I advised a long voyage, to drink sea water, and bathe in the sea, and, when got to America, broth
of

of the rattle-snake. The disease had, in the course of a good many years come on slowly, he walked very ill, and his sight was a good deal impaired. A fever, which seized him on going over, it was thought would have done him service; but being of the depressed kind, it served only, for the time at least, to enervate him more. After living a considerable time in the country, he returned much the same. This disease, in like circumstances, I have not seen cured by any method.

THESE are all the instances wherein I have directed living at sea for the cure of diseases, except one or two more, from which nothing was to be inferred, as it was undertaken with great disadvantages. Other instances, which I can fully credit, of its thorough efficacy, in some diseases of a worse kind, I have been informed of, but so that I am not able to form an exact relation of circumstances: these therefore I but just mention. And were it attended to, it would be found, I am persuaded, that many great cures are, without intention, daily brought about by this method, though not imagined perhaps
to

to be owing to it. I shall from the foregoing histories only offer the following short remarks.

IN all of them almost the good effect of sailing is evident; and the more remarkable that it should have happened in so many cases successively: the last four are not to be reckoned.—The benefit was derived altogether from sailing, as no other remedy was used during their living at sea.—It did not depend wholly on the exercise, for several were not at all, or very little sick; and that mere gestation should resolve tumors, prevent spitting of blood, and dry up pus, cannot easily be conceived; or that these effects were owing to an increased action of air, solely as air, is as little probable.—It has been chiefly in consumptive cases that I have recommended sailing; to the cure of which it seems altogether suited; and as no adequate remedy has yet been discovered, this encourages and justifies a serious trial of it, in this particular distemper, so frequent and fatal in Great Britain.—Not only is it in general suited to the cure of a consumption, but, which cannot be said of other remedies, sailing and sea air seem to be accommodated equally to the different kinds

kinds and stages of it, while yet curable; that is, both in the crude state of simple obstruction, and in purulence, or ulceration, from different causes.— It appears farther to be no less adapted to those concomitant circumstances of it, in which other exercises are very often found hurtful, fever, inflammation, and spitting of blood.— The practice, if no other advantage is gained by it, procures at least a manifest abatement of symptoms, or a suspension of the disease, which is a point of great moment, as thereby an opportunity is given to attempt a cure, by regular courses of medicine, if these are requisite.— That several of the consumptive died, after making trial of a sea life, is no just objection to the method proposed. The lungs, once to any degree affected, remain ever after, or for a long time, weak, wasted, in part obstructed, or impaired in their motion, and, from these causes, liable to be again affected; until in a course of time, under due management, the parts are strengthened, callosities removed, and the vessels rendered pliant or permeable.— Nor was the time allowed for sailing often sufficient, in such a great degree of the distemper, to
render

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render the success compleat in a thorough cure; which, as far as the nature of the disease would admit, it is not improbable, might, by perseverance, have been accomplished.

C H A P. IV.

Living at sea a proper remedy, and how it operates.

I HAVE been often asked what it was in sailing, or living at sea, that rendered it a fit remedy, what effects it had, and how these effects were produced? The more curious will perhaps, in matters of this kind, find amusement at least.

The first effect of sailing is the sickness, which takes place immediately, and, just entering on a sea voyage, cleanses the first passages of such bad humours as retained might vitiate the chyle, and prove a continual *fomes*, till otherwise overcome, of impurities and disorder of the blood. In this it, so far, very properly, corresponds with the usual *præmittenda* in all regular medicinal courses.

But the benefit of sea sickness is not restricted to the bare cleansing of the first passages. Vomiting, by deriving a greater supply of blood and spirits into the parts, warms and strengthens them; and the long continued nausea, giving a lasting contractility, restores

restores the tone of the stomach, and its appendages; which from natural weakness, or other vice, are unable to do their office; whence a bad digestion, the bad effects of which are felt in all the after concoctions. On these accounts, therefore, it must be a sure remedy in many diseases that have their seat in, or depend on the distempered state of the alimentary tube. The invigorating power of sailing on the stomach and bowels, is evident from the costiveness caused by it, and great appetite it seldom fails very soon to give; sometimes when it has been intirely lost, and could not by other methods be restored.

Vomiting, farther, by the repeated succussions it gives, and evacuation it promotes, makes a strong revulsion, resolving the impacted matter of diseases, and so becomes deobstruent. From daily experience we know that particular tumors, and topical inflammations, threatening a dangerous apostemation, and fixed obstinate pains, are removed by it; rebellious ulcers it renders more tractable; and hæmorrhages are wholly stopt, restrained, or prevented thereby. Dropsies, likewise, and a mania, yield sometimes most readily to it. Nothing perhaps causeth

causeth greater violence and distension in vomiting, than that which arises from the nausea at sea. Therefore the commotion excited in sailing, was said to have the same effect as hellebore; and the vomiting caused by the continual rolling of the ship, to be a cure in many diseases of the head, breast, and eyes, and those in which hellebore was given ^a.

Sailing has been reckoned still farther of use, as at sea the air seems to be possessed of real alterative virtues, from the many saline, and other corpuscles of different powers, joined to it, and plentifully imbibed by the inhalant vessels. The marine vapour, according to Oribasius, is not humid, that is, cold and relaxing as water, but dry and acrid,

^a Commotio denique quæ in navigatione excitatur, vim habet elleboro levi et albo persimilem. Oribas. *Medicin. collect.* lib. vi. cap. 23.

Quin et vomitiones ipsæ in stabili volutatione commotæ, plurimis morbis capitis, oculorum, pectoris mendentur; omnibusque propter quæ elleborum bibitur. Plin. *Hist.* lib. xxxi. cap. 6.

Illa autem quæ fit procelloso in mari jactatio, robustissimum hominem non assuetum, vertigine, vomitu, anxietate intolerabili, ipso animi deliquio, efficit; hinc casu aliquando morbos inveteratos sic sanari novimus. Van Swieten *Comment. in Boerh. aphor.* Vol. i. p. 34.

or of an active penetrating nature. For this reason maritime places were judged proper wherever there was occasion to warm, resolve, or deterge^b. Sea air, through its saltiness, Cælius says, is greatly aperient, and cleanses the body from impurities; by some change made upon it renewing the habit^c.

There is in the air a certain principle necessary to life, of which we have no determinate notion, and maintained only by a free circulation of it. The unhealthiness of places not duly perflated, is owing perhaps to the want of this principle, which those in great

^b Quæ autem in navibus [fit gestatio] hoc magis habet quod in purgato aere, et in quo non humidi vapores, sed ficci et acres sint, efficitur; et ob eam ipsam causam est præstantior. Oribas. *Medicin. collect.* lib. vi. c. 23.—Loca vero maritima ubi detergendum, aut calefaciendum, aut aperiendum, conveniunt. *Id.* lib. ix. c. 11.

^c Etenim fluminales, vel portuosæ, atque stagni navigationes incongruæ judicantur, quoniam humectantes caput infrigidant exhalatione terrena: maritimæ vero latenter atque sensim corpus aperiunt, et, falsæ proprietatis causa, corpus adurunt; atque ejus habitum quadam mutatione reficiunt. Cælius Aurel. lib. i. *Morb. chron.* cap. 1.—Est enim lacerantior, atque corporis apertionibus efficax, ob falsitatem, maritimus aer. *Id.* lib. iii. *Morb. chron.* cap. 8.

cities and towns, in low and confined situations, are obliged, for the preservation of health, and recovery from diseases, to seek in the country, and more exposed situations. Perhaps too, this vivifying principle exists more at sea, air here being so much purer, and milder, and highly cherishing. The excellency of it in these respects has been always, from experience, even a vulgar observation, and nothing is more commonly spoken of than the freshness of sea air, which carries along with it the idea of greater purity and wholesomeness. Aristotle assigns, as the causes of this greater healthfulness, the agreeable temperature of it, and its being better ventilated^d: and it was reckoned one great advantage of sailing that it is performed in a pure air^e.

The exercise in sailing is a chief circumstance of its operation. Gestation at sea is quick, vehement, and incessant, very various and contrary. In this rocking motion there-

^d Cur qui in navibus degunt, quamvis in aqua, coloratiores tamen sunt, quam qui in paludibus? An loca commodè aspirata coloris præbere hilaritatem possint? Aristot. *Probl.* sect. 14. quest. 12.

^e Oribas. ubi supra.

fore there is a perpetual ballancing, from a continual change of the centre of gravity, by which all the solids act, and the fluids are acted upon, with great variety and effect, and are very differently moved and determined: so that the juices are all thus more effectually mixed, comminuted, and propelled, in order to produce an uniform well elaborated fluid, the blood. The lungs, by their unceasing motion, and a thorough agitation of the blood, as in churning, are the main instrument of sanguification, which in many diseases, especially the organ itself affected, is very imperfect. Will not the constant various action, induced through the whole system of muscles in sailing, be subsidiary to the now impaired action of the lungs; and does it not, more than any other exercise, emulate, and supply the want of, this sanguifying power in them?

A farther addition to the exercise at sea, besides the greater action of air in general, arises from the manner of its acting in an undulatory way, by which mechanism it obtains a much greater efficacy, than when it acts only by a constant equal pressure. From an unequal pressure of the air, in a percussive way,

way, it is that many low spirited and hypochondriacal people, feel greater constancy, and elevation, in windy blustering weather, though rainy, and in thunder. The contrary happens to them in calm mild brooding weather, though not rainy, as in spring, or summer, when often they are worst. In this season and weather there is a small action of air, the solids are more relaxed, and the humours, from these causes, are disposed to move slowly..

But a life at sea is to be considered, in the cure of diseases, as having a mighty influence on the mind, which, by consent, must necessarily and powerfully affect the body. In sailing there is a strange mixture of passions, and in extremes; sea-faring people being, from hope and fear, sometimes merry, sometimes sad; exulting with joy, when at rest, and in safety; and in danger, thrown into the utmost despair. Such various, and sudden transitions of passions, are able somehow to remove diseases inveterate, and not curable by other methods^f.

^f Verum gestatio per pelagus vehementissima est, et mutationes plurimas et maximas facit. Nimirum quum anima mixtos affectus habeat ex tristitia et spe; timore ac periculo; modo gaudentibus et lætis, modo in agone

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Many causes certainly exist at sea capable of producing great changes in the animal body, and that very differently affect it; therefore so many virtues are ascribed to it. There is one disease, to the cure of which, by a particular manner of operating, it is so much appropriated I think, and of so much importance, that a farther explication will not perhaps be unacceptable; and that is a consumption.

A consumption is a local affection, and external, or exposed to the air. It is easy to comprehend how exercise, and change of air, and climate, may be of sensible benefit to the habit, but few have regarded the vapour, or spray, at sea, as a suitable application to the lungs. When I speak of this I presume it is granted, that to attempt the cure of the vice of the part, chiefly affected in a consumption, by applying a remedy directly to the part itself, is a reasonable and necessary intention. To cure the ulcer of the lungs is to cure the disease, which will not be easily done, I sus-

existentibus navigantibus. Omnia hæc composita sufficientem vim habent omnem veterem morbum exigendi, et e corpore excludendi. *Ætius Medicin. contract. tetrab. prim. ferm. 3. cap. 6.*

pect, by remedies that affect them but remotely, and in a trifling proportion, by means of the circumfluent blood only.

The necessity and success of fumigation in ulceration of the lungs, is by various authors insisted on, and various forms of remedies are proposed, both for steam and fume; to be conveyed by proper instruments into the lungs. Drying antiseptic substances are directed likewise, to be held constantly in the mouth, that with the effluvia of these the air and spittle may be plentifully impregnated; nor upon the intention is the method contemptible.

Instead of these artificial applications, though they were in use too, the ancients endeavoured to find a properly medicated air for the consumptive to live in. In this view, those having ulcerated lungs were sent to Libya, or some such place, where breathing in the forests filled with pitchy effluvia, they are said to have lived many years safe. By Galen they were sent to Stabiæ, the situation of which, on the shore, betwixt Naples and Surrentum, seems to have been remarkably favourable. Sufficiently elevated, as well as defended from east and north winds, and in-

clining to the south, it was advantageously exposed to all the mild healthful sea influences. And from Vesuvius, continually throwing out smoke and ashes, the air was filled all round with sulphureous exhalations. The internal heat of the mountain, part of which extended to Stabiæ, would cause a transpiration of such effluvia likewise.

The great resource in consumptions with us has been to go to a warmer climate, and breathe a lighter and purer air; and the excellency of air, in those places to which the sick are sent in more southerly climates, consists in the mildness of it, and the constancy of weather, and regularity of seasons; and compared with air in places farther north, that are cold and moist, the weather continually varying, is certainly preferable, and does least harm. May it not be a question however, whether, according to the prevailing belief, a finer air is here always best? Experience shews that it is not. In a pure serene dry air I very often observe them grow worse; and to live easiest in weather and seasons seemingly more unfavourable; in an air particularly that, as Fred. Hoffman, who makes the same observation,

servation, expreffes it, is temperately humid : of this character is fea air^s.

If, as hath been alledged, air at fea is really endowed with greater gravity or elafticity, it will answer, with more advantage, all the mechanical purpofes of air in refpiration; that is to dilate freely the weak, flaccid, or ftiff callous lungs; procure confequently an eafier circulation through them; and make a due compreffion on the tender blood-veffels,

^s The lungs are a constant moving organ, and kept always foft, and yielding, and properly defended, by a fine pituitous lymph, or watery lining mucus. Moift air therefore appears moft friendly to the lungs, and neceffary to preserve them from being inflamed, and fo becoming lefs moveable; which they are apt to be under fever, heat, and drynefs of air. But it has a farther effect, being better adapted than dry air to attemperate, refresh, and ventilate the blood in the lungs. The comfort and benefit of a ſhower is very fenfibly felt in great heats, by giving more ſpirits and freedom of refpiration. In hot climates the cuſtom is, when almoſt ſuffocated, to fit under the ſhade of a large cloth, kept conſtantly wet, from whence the moſt agreeable relief is found; which is plainly the effect of moiſture: and is farther confirmed by this obſervation, that the ſea breeze, though cool, always brings a breathing ſweat, or free perſpiration, and makes the body eaſy; which the dry ſultry land wind never does, as it diſpoſes the blood to be putrid and aduſt.

so liable to rupture, especially in a hot unelastic air. On the tops of high mountains, where the air is very light, one breathes with difficulty, has a suffusion of the eyes, and a spitting of blood sometimes ensues. I remember, on a sudden sultry heat, several, in one night, suffered an hæmorrhage from the lungs. A parallel instance we have in history ninth of this treatise. This perhaps suggests a reason, why the consumptive enjoy sometimes greater ease in the thick air of large smoaky towns; because filled with grosser effluvia, it is not capable of rarefaction, and doing hurt, by its lightness, to those of a delicate texture of lungs. Celsus makes it a necessary condition, that an air be chosen more dense than that which the sick go from: therefore were they sent to Egypt^b, the air of which Prosper Alpinus informs us, in its maritime places, where it often rains, is very gross. Formerly indeed they seem to have chosen mostly places on sea coasts, and a heavier air, which does not altogether agree with modern notions and practice.

^b Opus est cœli mutatione, sic ut densius quam id est ex quo discedit æger petatur. Ideoque aptissime Alexandriam ex Italia itur. Cels. lib. iii. cap. 22. *De phthisi.*

But, which was principally in view, there is no other air can boast the advantage of being, at all times, replete with particles so fitly suited, in a strict medical sense, to the different morbid states of the lungs in a consumption. Sea air is a true pectoral, being properly medicated, and applied directly in inspiration to the lungs themselves; and will not perhaps be found inferior in effects to balsams of the highest name. Among the exorbitant number of internals called pectorals, how few can with propriety be said to merit this appellation. As such their effect is partial and precarious. They reach the part only by the long round of circulation, and affect the whole body indifferently; being often equally good diuretics and splanch-nics; or more generally sweetners or anti-scorbutics. But the kindly warmth, balsamic nature, and saline humidity of sea air, render it, as far I think as can well be imagined, upon all ordinary intentions of cure, externally a fit and a necessary application.

The reasonableness and probability of this conjecture will not immediately, perhaps, be acknowledged by every one, nor shall I assert any thing. Imagining however, that being

frequently on water would be cooling and refreshing to the weak parched lungs, and repress the fever, and likewise that there was something more in the vapour than mere water, which gave it some resemblance to those medicated steams and fumes directed to be drawn into the lungs, and trusting little to exercise at land, I made some cautious trials of what use living at sea would be. The benefit was such as I had at no time observed from ordinary air and ordinary exercise. It was a farther encouragement to find that the same notions were held by the ancients; and that sailing is by them generally, and for the same reasons, recommended in a phthisis.

It has been remarked concerning the use of sea water externally, which is still used in the same intentions by the vulgar, that it is good in ulcers already cleansed, to extenuate them; in ulcers of fishermen that are of difficult suppuration; and in callous or fistulous ulcers, or those badly cicatrized; spreading ulcers it likewise stops and mitigates¹. In some such state are the lungs commonly found in a con-

¹ Hippocrat. lib. *De liquidorum usu*.

sumption; and such effects, in some degree, it is presumed, the spray or vapour will have upon them at sea.

The sea, to indulge a comparison, may, in the present view, be represented as a singular species of balsam highly diluted; and, by its tenuity, commodiously fitted to emit plentifully by evaporation its several virtues: for the element here is richly saturated with a variety of true balsamic volatile parts; continually, by means of the sun, winds, and subterraneous heat, exhaling in the vapour, which acts constantly on the lungs, as a proper bath or fomentation. This vapour was, by physicians of earlier times, thought to be of a warm, resolvent, detergent nature. Aretæus particularly, a writer for accuracy and judgment inferior to none, considered it as a healing application, saying expressly, that in a consumption, the saltness of the sea communicates something that is drying to the ulcers^k; and practice seems very much to confirm it.

^k Cum ulceribus enim quiddam siccum marina salugo communicat. Aretæus *De curat. morb. diuturn.* lib. i. cap. 8. *De phthise.*

C H A P. V.

Of the right use of sea voyages.

IN all things relating to sailing the ancients were circumstantial, and made many distinctions; as whether it should be performed on the sea, or in rivers; whether near the shore, or in an open sea; whether in larger or smaller ships; with oars, or sails; or in barges; in a vehement wind, or more moderate gale. Port and lake sailing are mentioned likewise. To some a long voyage, or living at sea, was prescribed; to others a shorter. So exact have they been here, that Herodotus directed to begin with sixty stadia, about seven miles, and by degrees to increase it to double. I shall offer on this head what has occurred to me from observation, or appears reasonable in the way of conjecture.

An early application to remedies has been a constant injunction in all medical advices. But as sailing is attended with such seeming difficulty, hazard, and inconvenience, that it is undertaken for most part with reluctance, it is therefore not to be advised but in cases wherein

wherein it is truly proper, and the degree of the malady requires it. There are some diseases, indeed, in which it is so plainly indicated, that I never hesitate to advise it from the beginning. In a consumption how many die daily, despising or not dreading the distemper at first, and trusting to ordinary methods and remedies afterwards. It is not uncommon to see them flying their country, to breathe a foreign and finer air; when, alas! they have not lungs left them to breathe with. When a cough begins to have joined to it a hectic in any degree, with sweating or wasting, and loss of appetite, and to give troublesome nights, the danger is too apparent. No remedy of efficacy is now to be left untried, either by itself, or in conjunction with others; for very often, if we mean to attempt a radical cure, or this is possible, all assistances will be required, and all will perhaps prove ineffectual too. A sea life, in this stage, has not hitherto failed fully to answer my expectations.

I have always found sailing safe as to health, and successful in good weather and bad weather, in winter as in summer, and in very different climates. In directing it therefore a nice attention to these does not
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in general seem requisite ; and the necessity of the case prescribes the rule as to the time.

Yet in certain cases a regard to circumstances will be necessary. The asthmatic should be sent to sea, when the vapour has in it more of the saline humidity, or where the weather is fair and serene, according to the cause of the asthma, and the experience of what does good or ill. Rheums agree best with a warm dry climate, and dropfies; as, by increasing perspiration, it dissipates the superfluous humidity. Sometimes foul and stormy weather may do most good, for then the exercise is higher, and all the aerial influences are more strongly impressed on the body. Therefore it promises to be of greatest use in diseases arising from a gross foul habit, and a degenerate state of glands; particularly a consumption. During such weather they inspire in full draughts a spirituous saline air, or rich balmy humidity, fit to cool, deobstruct, or deterge the lungs. And to receive all the benefit, they ought to keep as much on deck as they can with safety, and expose themselves to the immediate free influence of this truly sanative air, and powerful exercise. This I have constantly
enjoined,

enjoined, and with it the sick have always as faithfully complied.

I have still less difficulty in advising to go to sea in more unfavourable seasons, as I know a change is thereby made into a warmer atmosphere, and the air is avoided at land, in our cold watery climate, and such seasons, filled with rigid obstipating parts, or a chilling oppilating moisture. These circumstances are carefully attended to, and determine chiefly, in sending those under diseases to a southern climate, nothing being more dreaded by them, or hurtful to them, than the inclemencies, frequent and sudden changes, and extremes of weather, to which through a long winter, we are so much exposed.

Those of greater delicacy, and liable to nervous spasmodic affections, should sail at first in calmer seas, in a port or bay, and a milder air and season, as they cannot suffer the commotion to a great degree, without disturbance, or disagreeable accidents.

Some preparation may perhaps be found necessary before going to sea, such as bleeding, or cleansing the first passages, if these are indicated. Proper methods should be used likewise when at sea, to prevent excessive vomiting, astringency, or looseness.

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Sometimes a course of deobstruents might be very properly directed, to assist in the cure. But hitherto I have always trusted intirely to sailing. If a milk diet were necessary, those of condition may have goats or a cow kept on board.

It is needless almost to say how long the sick should live at sea: it is supposed they will, or ought, to continue till the disease is cured, and a confirmed state of health regained. Some, it appears from the histories, recover in a few weeks or months. Sometimes a few hour's sickness have been sufficient. In others, years may be required to complete the cure, and secure against a relapse. I do not mean that they should be always in all cases at sea, but now and then to go a voyage; which several, from the benefit received, were encouraged to do. It will prove more effectual, I think, than to send them to drink spaws, or milk, or upon very often fruitless land peregrinations; at least, when all these have availed little, and after tedious courses of medicine, I have tried it with success.

If from weakness, doubtfulness of the case, fear, or aversion to it, it is not thought
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fit to advise, or the sick do not incline to make trial of a sea life, the next expedient is to live on some small island, or on a coast duly exposed, where the vapour from the sea exceeds the land exhalations, and the kindly sea influences prevail. Here they may sail every day, to observe what effects it has, and to accustom themselves gradually to the unusual motion, and a longer sea voyage.

By this method sailing may be regulated with safety and advantage to all cases and circumstances; for, by sailing in a larger or smaller vessel, at a greater or lesser distance from shore, in a calmer or rougher sea, we can give more or less exercise and sickness; exciting only a simple nausea, or increasing it to vomiting, and continuing it a longer or shorter time, according to the nature of the disease, and as the condition of the sick will allow. In the view of all this it seems to have been, that the antients were so very particular in their rules about sailing. It is familiar with me to advise going out in a boat, an hour or two in the tide, frequently.

As the horror of dying at sea is a great discouragement, I have always contrived the voyage so, that if the sick do not agree with a sea life, or death is apprehended, they may be at land, or have time to return, before a bad accident, or a bad event shall happen.

Some diseases are peculiar to a certain period of life, which happily got over there is usually little danger afterwards. This is particularly true of a consumption. Perhaps it might not be an useless precaution, for those of families where such diseases have been remarkably fatal, to pursue for a season, at a proper time, a sea life, in order to prevent a like catastrophe. I once directed it in this view, and with the desired effect.

Sea remedies were in frequent use among the ancients, sailing, and salt, and sea water, in different forms, and for divers purposes; bathing and swimming in the sea; rolling in the sand and sweating in it; and living in maritime places, and upon such things as the sea affords. The consumptive are directed to go from a drier situation to that which is moist, and from a moist to one that is dry. Whether, where I have opportunity to observe, an excess of moisture or driness causeth
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or increaseth the disease I am not able to determine, the general temperature as to these being so equal, and few inland places are less exposed to severe cold. Of what importance changes of air are in these respects with us, others perhaps know better. I have one fixed opinion, that something more than simple moisture or driness, as they affect the lungs immediately, is necessary to render such changes more effectual to a cure, than experience has yet proved them to be. If any benefit is expected from them in our island and climate at land, I would, where a long voyage is disagreeable, advise to live on a dry elevated shore ; to ride a great deal, and close by the sea ; especially during the flowing tide ; to be frequently among the rocks ; and to sail every day, in order to breathe as much as possible in the vapour or spray, that the lungs may be therewith frequently moistned. Something more than mere moisture, I'll venture to suppose, may be thus communicated to the lungs ; something perhaps not unsuitable to their nature, and present morbid state. In such an air, at least, they will live as safe and easy as in dry inland places, which are often made choice

of; and where, with concern, I have always observed they almost all die. Sea air is found to contribute much to that soundness of lungs which preserves from phthifical disorders^a.

Under a method of this kind a milk diet, when it is found to agree, will properly take place. This too was a chief practice, perhaps with more success than now, of the ancients; who alike attentive to circumstances of constitution, and of the lungs, endeavoured to cure the ulcerations by remedies both external and internal. Milk upon this intention was in high esteem, especially that of Stabiæ; where the country, from its situation and soil, abounded with many plants of very healing

^a Inter innumeras mulieres, quæ victum quotidie eruendis conchis ad littora quæritant, vix unam invenies cujus putridi sunt dentes; contra autem firmæ sunt plerumque gingivæ, pulmones sani, tussique scorbutica liberi. Idque præcipue ipsis inde contingit, quod aer salinis undique particulis, e maris superficie effluentibus, vel potius ab undarum flictu elisis, abundat. *Ruffel de usu aquæ marinæ*, p. 76. A like observation I have made on a dry rocky coast, where the inhabitants are often in the sea, and live in a fresh sea air, and eat shell-fish; and among them a consumption is rare. In an inland country not many miles distant, and the soil generally dry, the disease is frequent.

virtues.

virtues. To this place the consumptive were sent, not only on account of the excellency of the milk, but likewise of the vapour and exhalations, raised from the sea on one hand, and Vesuvius on the other ^b.

What is truly indicated in a disease we ought distinctly to know, and to every indication to have a special regard, or there is great likelihood we shall fall short of a cure. When we endeavour to cure a consumption

^b The mons lactarius of Cassiodorus is thought to have been here; a place in former times of much resort, and celebrated, in very different periods, for the salubrity of air, and great abundance of rich milk; which, from the nature of the herbage, was found so medicinal and restorative. On the occasion of one Davus in a consumption going there he thus writes: *Huic ferocissimæ passioni beneficium montis illius divina tribuerunt: ubi aeris salubritas cum pinguis arvi fœcunditate consentiens, herbas producit dulcissimâ qualitate conditas; quarum pastu vaccarum herba saginata lac tanta salubritate conficit, ut quibus medicorum tot consilia nesciunt prodesse, solus videatur potus ille præstare: reddens pristino ordine resolutam passionibus vim naturæ. Replet membra vacuata, vires effœtas instaurat, et fomento quodam reparabili ægris ita subvenit, quemadmodum fomnus labore fatigatis.* Cassiod. lib. xi. *variar.* epist. 10.—Baccius likewise: Neapolitani medici pro ultimo refugio ægros phthisicos, et qui sanguinem exspuunt, vel ejusmodi thoracis ulcera, et alia vitia, patiuntur, ad Tabeas mittunt

by remedies that respect the habit only, we satisfy one indication only, while another, no less important perhaps, demands as much our care. With equal propriety might it be attempted to cure a sinous, sordid, or other bad ulcer, by a general, or pretended specific method, without the assistance of the hand, or a suitable local application. An ulcer is the same every where, and the same topical remedies, adapted to the nature and

cum successu adeo salubri, ut sint qui totam in iis degant vitam. *De thermis*, lib. iv. Later instances still there are of some who went thither with eminent success.

Milk is often drank with us under great disadvantages, either where there is no real fitness of air, or in moorish mountainous places, where the frequent fogs, and natural wetness of the grounds, cause, even in summer, a cold and moist atmosphere; than which nothing can be more hurtful to the lungs. Fit places, in all respects opposite to these, may be found on sea coasts, as Stabiæ was; and the pasture might be improved, by propagating in plenty, the whole tribe of healing plants, agreeably to a hint given for this purpose by Galen. I have been the more particular here, in order to shew, as a matter of curiosity, the conditions of a place concerning which I find so much said; and because likewise, the practice in consumptions has, at all times, turned so much upon the proper use of milk, and a right choice of air.

situation of the part, if they are of use at all, are every where equally necessary. To correct, if possible, the vice of the fluids, and even of the part principally affected, is, by all the most appropriated internal methods, daily essayed. The diseased state of the lungs, weak and wasted, broken or eroded, inflamed and obstructed, as to any application that might be made to them externally, seems to be altogether neglected. May not the want of attention to so material a circumstance, be a great cause of the want of success so often in a consumption?

But however useful, when rightly contrived, applications made to the lungs externally may be, the disadvantages are obvious, and not easily remedied. From the great delicacy of the parts, and the qualities of the substances employed, they will to many be too heating, irritating, or relaxing; and those of greatest efficacy are dangerous. Besides, such a constant use of them as is necessary few will submit to, or indeed can bear; which is the reason chiefly, I believe, they are now fallen so much into disuse, and will always remain. Nature, unless I am deceived in my observation, has provided in
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the vapour or spray at sea, all that can be proposed by them; and all the good is obtained without the least uneasiness to the sick, hazard in the application, or the necessity of a troublesome apparatus.

C H A P. VI.

Objections.

THE first and most obvious Objection against going to sea, is the danger of it. Of an equal number it will be found perhaps, that as many die of epidemical and other distempers, and by accidents, at land, as at sea; where the air and exercise, by giving a strong appetite, and spirits, and higher health, are a great preservative against diseases. A life at sea is very little productive, says Ramazzini, of chronical Ills^a. Most seafaring people perish through indiscretion; habitual intemperance perhaps, violent and often unnecessary labour, incautiously exposing themselves to heat and cold, the fatal effects of which are attributed to the climate, or a sea life. Hence indeed the causes of acute diseases among them, and why not many seafaring people are long lived. But of those who have resolu-

^a Navis non est locus ad alendos chronicos morbos.
De morbis artificum, cap. x. Supplement.

tion to preserve themselves from such excesses, and hurtful irregularities, few die, and those who go to sea on account of health, are of necessity restrained from them.

But that terror which arises from the apprehension of danger, is many times a principal means of cure. In diseases all emotions are directed to be suppressed, and carefully guarded against: but the great alterations brought about, sometimes instantly, by sudden affections of the mind, shew that these, excited with judgment and address, may be employed to very salutary purposes in diseases of the body. They cause wonderful revolutions; and will remove, for a season at least, the most painful affections of the body. Intermittents have been cured by a fright; some by it have recovered from a mania. Two persons, I almost despaired of, were, upon accidents, causing great fear and concern, all at once freed from a tedious obstinate diarrhœa, after every method had been tried in vain. Whatever it is owing to, change of air, the sickness, and high exercise, dread of danger, or amusement, giving a different turn to the mind and spirits,

spirits, this is certain, that the sick feel soon an alleviation of their distemper, and the symptoms altogether or in a good measure cease.

The hardships of a sea life, it is objected to this practice, the weak, sickly, and delicate are not able to undergo ; and, with seeming reason, has the safety of it, in this respect also, been greatly doubted.

The same prejudice deterred me at first from advising to sail in particular cases ; and, regarding appearances only, might still have continued, had not repeated trials fully convinced me, that those in circumstances of great debility will bear easily this exercise, when they can suffer no other, and be much cheered and strengthened thereby^b. Nay that the sick expose themselves, with caution, to moderate hardships, arising from the weather and motion of the ship, will neither be useless I know, nor dangerous. In the worst

^b Navi autem vehi conducit debilibus ; si placido navis feratur motu miram alacritatem, perspiratione aucta, solet excitare, famem augere, ingestorum digestionem promovere. Van Swieten *Comment.* vol. i. p. 34.— Multum enim virium adjicit hæc navigatio (cymba molli et delicata) et corpora implet. *Forest. Obs.* liii. lib. xvi.

seasons and weather they, very sensibly sometimes, received most benefit.

In a habit of spitting of blood living at sea is no less suspected ; lest thereby, from the great sickness or exercise, the rupture of the vessel, and consequently hæmorrhage, should be increased, and the disease rendered suddenly mortal.

But the greatest danger in this disease, is not from the simple rupture of some small blood-vessel perhaps, which for most part very soon of itself agglutinates ; nor is spitting of blood always from this cause : and, without any reasoning, it is enough that vomiting is often practised in this very formidable appearance, and other hæmorrhages, with much advantage. From my own experience of it in the case, I have no doubt either as to the safety of going to sea, or the benefit that will accrue from it.

A sea life is judged still very improper, because of some supposed unwholesomeness in the air ; it being frequently observed that the sick at sea, in very deplorable circumstances, recover surprizingly, in a very short time, when carried to land ; whence the greater wholesomeness of air at land is inferred,

ferred, and the necessity of it in order to a cure.

The same effect likewise I have usually observed, on the sick at land going to sea. It is not the pure natural air, but the corruption of it, that is the cause of worse health, and diseases at sea. This is evident from the happy provision made against it, by the late invented machines to draw out foul air ; by which large crews have been preserved extremely healthy, in very long voyages. And sailors on board our merchantmen are generally free from the distempers incident to those in more crowded and less cleanly circumstances at sea ; particularly the scurvy ; which, by the common specifics, fresh air, and proper diet, may be successfully cured any where.

The scurvy is the grand disease of seafaring people, and by authors frequently attributed to their living so much in a salt atmosphere ; which I believe that at sea to be, more or less, in the spray and vapour, at all times : nor has an opinion obtained more universally, than that the scurvy is the product of sea salt.

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Many diseases I can imagine to be produced by the marine salt rather than the scurvy ; such as rigidity of the solids, fevers, and inflammations, blotches externally, and various kinds of eruptions. But acid of salt, and sea water, are given familiarly in it. The general causes of the scurvy are now more certainly known to be bad air, bad diet, moisture especially, joined to heat or cold, and want of vegetables. Now these are not peculiar to the sea, or do not every where there equally and constantly prevail, but are accidental, and may be easily prevented or avoided. In camps and garrisons, where often the disease rages in all its malignity, those of condition, as well as in fleets, are seldom or to a high degree invaded by it. Better diet, and lodging, and warmer clothing, and being less exposed to hard duty, preserve them from it. See Lind *on the scurvy*.

From the circumstance of trees not growing near the sea, or not thriving, it has been concluded that sea air is unwholesome.

Lord Bacon, in his *historia ventorum*, takes particular notice of the bending of trees on the shore, *maris auras quasi aversantes*; but
imputes

imputes it, and justly, I think, to the ponderosity of it, not to any malignant quality in it: The like bending, and a stunted growth, we observe in trees very remote from all marine influences, for in no exposed situation will they grow. In order to raise trees successfully, the soil, air, or extraordinary culture, are not so much to be regarded as good shelter, and with this they will grow anywhere: hence the reason and necessity of planting in clumps, thickets, and forest-ways, in our boisterous climate.

Nor is it a proof of the unwholesomeness of sea air, that the inhabitants of sea coasts are remarkably sometimes subject to scurvy, rheums, consumption, and other distempers.

However true this, it seems to respect only situations on a low boggy shore, where the air is cold and moist, and liable to fogs, and foul exhalations; or too much exposed to piercing winds; by all which the kindly nature of sea air is destroyed. Here too it is probable they live much on fish salted or dried, and drink bad water. From such causes such diseases will, every where, naturally be produced. On a moderately ele-

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vated dry rocky coast, exposed to the warmer points, they are seldom found to prevail.

To certain hurtful effluvia, or a noxious quality in marine salt, which makes sea air, we are told, as well as its waters, unwholesome, is the supposed malignity said to be owing in the sea; by this notion represented as a continual source of poisonous exhalation, and salt unfriendly to the human constitution.

That sea salt may be used in great quantity, without hurt, no one in the least acquainted with the manner of living amongst a great part of mankind can be ignorant. The lower kind of people, who live mostly on salted meats, are remarkably strong, healthy, and prolific. In many places the water of the country is so salt that it proves purgative to strangers: yet the vulgar, who use it always, and from custom like it, are healthy, and subject to no peculiar distempers from this cause.

Without something more hurtful concurring, salt is, in common use, for many good purposes, a safe and a necessary principle. And here a practical observation may be taken notice of, very useful, I am persuaded, to valetudinarians,

rians, and such as studiously observe too great exactness in diet; which, especially a habit of low living, enjoined to younger subjects, I have often known to be the cause of singular delicacy, and of death, long before they arrived at the more advanced stages of life. Experience shews that those who abstain from bread, which contains a subtle acid, from salt in their food, from acids, pickles, and wine, living on nothing but insipid nutrients, are subject to continual ailments; and more liable to scurvy, costiveness, colds, rheumatism, many chronical diseases, and obstructions of the bowels, than even those who use these things in excess. Salt is the balsam of the body, and used not more on account of the taste it gives, than to preserve the blood and humours from corruption^c.

Whether sea air is really, in its nature, less salutary, is best known from its effects. A well-chosen situation near the sea, has not more advantages in point of pleasure and convenience, than it is observed to be truly healthful; so that many places the most noted, both in ancient and modern times, for the

^c Fred. Hoffman opera, tom. vi. p. 112. *Dissert. de salium morbosorum generatione in corpore humano.*

salubrity of air, are on sea coasts. The wholesome influence of sea air is in nothing so sensibly perceived as in vegetable life, which, by the blowing of sea winds from the south, is mightily promoted; and those evils removed that are hurtful and destructive to it. South winds, on the contrary, from the land, are many times productive of diseases; and in some regions a stated cause and presage of mortal and unhealthy seasons.

Aristotle's observation is no less true than obvious, that the inhabitants of marshy countries are of a sleepy disposition, and have a pale aspect; while those that live at sea are well coloured, though amidst the waters. No where indeed is there to be found a more healthy, active, vigorous race than sea-faring people. In all cases, supposed curable, wherein I have recommended living at sea as a remedy, and it was duly complied with, the sick, if the disease was not altogether cured by it, returned always with more health; and greatly improved in flesh, strength, and complexion.

C H A P. VII.

Sailing accommodated to the distempers of Great Britain.

THE natural constitution of the diseases of a place or country is according to the general constitution, and more remarkable changes of air, which depend again upon the soil and climate. The general constitution of the air of Great Britain is cold and moist, the weather constantly varying, often turbulent, and in extremes. Laxity of the solids, a languid and irregular circulation of the fluids, and a retention of humours, are the certain and universal consequences. The diseases arising from such a state of the solids, and disposition of the fluids, are tenderness or a valetudinary state, rheums, glandular obstructions, plethora's of different kinds: vapours in all degrees of it, from a low-spirited illness to the highest nervous distemper, consumption, and other affections of the lungs; and fevers of the slow, depressed, hectic, irregular, in-

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intermittent

§6 THE USE OF SEA VOYAGES

termittent kind. Of these so far as coincides with the present purpose.

Tendernefs.

This constitution of body is an habitual want of health, from causes not well known, or not enquired into. Thinness or want of flesh often attends a valetudinary state. Under this thinness many, especially younger subjects, feel or complain of no real disorder. Others are continually ailing, liable to colds, tooth-achs, sudden feverish fits, and fits of looseness; and all their illnesses are very smart. Or they are pale and languid, and have signs of a watery colluvies; their skin is white and smooth; their hair soft, thin, and lank; and teeth bad. The blood is sometimes florid, watery, and resolved; at other times has in it a considerable siness.

Long tendernefs or wasting, without any sensible cause, in the beginning of life; not yielding to ordinary remedies, and threatening some great and formal distemper, I have always had in view, in the trials I purposed to make of living at sea. The singular change of air, and as singular exercise, are able to produce great alterations of the humours,

humours, and strengthen mightily the whole frame. It is a common observation that raw, puny, slender boys going to sea, become in two or three years big, lusty, and strong.

Scurvy.

There is a species of scurvy so universal that few perhaps are altogether free from it. Distinguished from the true scurvy, which consists in a dissolved state of blood, it appears to be a lymphatic disorder; a foulness, acrimony, or other vice of the thinner fluids. Among the many diseases said to arise from this impurity of juices, a head-ach is mentioned, and a colic, both of a very obstinate chronic nature; and often it terminates in jaundice, and a dropsy. In all these, and a leprosy, the highest degree of scorbutic acrimony, a cancer excepted, sailing and a life at sea are directed as a cure^a.

^a Aretæus *de curat. cephalææ*. Peregre proficiscatur ægrotus in regiones calidiores ex frigidioribus, et in ficciores ex humidioribus, confert et navigatio, et in mari vitæ traductio.

Alex. Trallian. lib. x. *de colico affectu ex frigido humore*. Motus et omnis exercitatio conferunt, sive pedibus, sive per equum, sive etiam navigio corpus

In the dropſy its uſe ſeems more particularly to be inſiſted on. “ It is certain”, ſays Dr. Towne, “ that in a beginning dropſy nothing conduceth more toward recovery “ than exerciſe and change of air, no kind of “ exerciſe more than ſailing, and no air more “ than ſea air. Let me therefore exhort all “ ſuch whoſe circumſtances will admit of it, “ to leave the iſland on the firſt approach of “ this diſtemper, and remove for ſome time to “ England^b.”

One in a dropſy, not only his face, hands, and feet, but his belly ſwelled, was given over as incurable. He went out to ſea ſome miles in a boat, which made him vomit. After the vomiting he uſed exerciſe, and recovered^c.

If we conſider the exerciſe, the revulſion in vomiting, and evacuations it ſometimes movere velint.—Tum adhibenda longa navigatio. Cælius.

Cælius Aurel. cap. *de aurigine*. Erit præterea, perfeverante paſſione, etiam longa navigatione curanda.

Aretæus *de curat. elephantis*. Vita in aquis diu du-cenda eſt, et mare et navigatio conferunt.

^b *Account of the diſeaſes of the Weſt-Indies*, chap. of the dropſy : and to the ſame purpoſe Cælius Aurel. cap. *de hydrope*.

^c *Foreſti ſchol. ad obſ. xxxij. lib. xix.*

promotes,

promotes, there does not seem to be, after tapping, a more proper effectual means to prevent the collecting of the water than sailing^d.

Though not in place, I shall mention it here that it was held of use in disorders affecting the kidneys^e.

Vapours.

If we suppose a want of blood, an effateness of it, and a languid circulation, in the remoter vessels especially, exciting an undue oscillation of the solids, or a spasmodic disposition of them, we shall perhaps form some idea of a very various and perplexing distemper, in its more immediate causes.

The *stomachica passio* of the ancients bears the nearest resemblance, in many things, to our great modern national distemper vapours; and in this sailing was a remedy with them; as well as in several disorders that attend the low-spirited illness, or have an

^d Perfecta humoris detractioe——ægotantes præterea navicula exerceri hortamur. Cælius Aurel. cap. de hydrope.

^e Dieta vero, inunctio, navigatio, et vita in mari acta, omnia renum affectibus remedia sunt. Aretæus de curat. calculorum et ulcerum in renibus.

affinity with it ; such as pains of the stomach, coldness and inflation of it, want of digestion, loss of appetite, or the appetite depraved, and bile or phlegm offending. In diseases likewise wherein they judged hellebore proper, it was recommended ; the hypochondriac was the principal ; and particularly in those higher nervous distempers that are often the consequence of low spirits, or a scorbutic habit, and to which numbers, from constitution or excesses, are miserably subject, epilepsy, apoplexy, palsy, and maniacal affections ^f.

^f To avoid as much as possible references, I shall give only a few quotations that seem most material.

Si vero pituitâ stomachus impletur utilis navigatio—
Molestius est si stomachus bile vitiosus est. Necessaria
gestatio, navigatio, et, si fieri potest, ex nausea vomitus.
Cels. lib. iv. cap. 5.

In parvis vero navibus et magnis ferri, confert lepræ et hydropisi, et apoplexiæ, et frigiditati stomachi, et ejus inflationi ; quoniam quum coram littoribus maris fuerit, commovebitur ei vomitus, deinde quiescet, et conferet stomacho : sed navibus ferri in mare altum, est fortius in removendo ægritudines quas nominavimus : propterea quod secundum animam lætitia et tristitia diversificantur ; et secundum membra nutrientia, eorum vero exercitium corporis exercitium est sequens. Avicenna, lib. i. fen. 1. doct. 2.

In certain circumstances of the vapourish distemper, and some diseases that have a connection with it, a strong and lasting revulsion, or revolution made in the humours or spirits becomes necessary: for the cause, even when it affects the first passages, which it often remarkably does, seems beyond the reach of common emetics. Many, at least, have I known, without any other advantage than a short relief, by a frequent repetition, tired into a perfect abhorrence of them. The sea-sickness can be sustained with safety hours, days, weeks, a longer time by far than we dare attempt to promote vomiting, or a nausea, by any medicine thrown into the stomach, and affecting it immediately. This must have a mighty effect in all such diseases whose causes are most remotely seated.

Valentiora (gestationum genera, in alto mari navi,) vero his conveniunt qui gravium morborum initia sic sentiunt, ut adhuc febre vacent, (quod et in tabe, et in stomachi vitiis, et cum aqua cutim subiit, et interdum in morbo regio fit,) aut alii quidam morbi, qualis comitialis, qualis insania est, sine febre, quamvis diu manent. Cels. lib. ii. c. 15.

——quin et terra marique peregrinari, multum juvat. Mead *monita et præcepta med. cap. de insania.*

Glandular Obstruction.

The extent of glandular obstruction may be conceived from the infinite number of glands of various orders, every where, through the whole body. It is most conspicuous in the evil, which is a disease more frequent than is commonly suspected; for a scrophulous indisposition prevails often when there is no visible tumor, but affecting some remoter order of glands, or inward part, is the cause of many disorders not easily understood. A glandular swelling outwardly shews at last perhaps the nature of the inward distemper, which may be sensibly relieved by a suppuration externally. Internally it is seated chiefly in the mesentery and lungs; and ends frequently in a hectic wasting fever, and pulmonary consumption.

Tenderness, scurvy, vapours, and the evil seem to have the same common causes: therefore it is that they are so common to one and the same person, and change so often the one into the other. Thus tenderness may be carried off by a scorbutic eruption. A scorbutic ulcer dried up has caused a herpes. A herpes or other foulness of the skin indis-

cretely repelled, will bring on tubercles, and glandular swellings, topical inflammations, extreme languishing, or an oppressive low-spirited illness.

Rheums.

This is another class of diseases to which sailing and sea air have been appropriated, though in most cases of rheums they will be thought unnecessary and inexpedient, as other and very effectual methods are well known. Maritime places, Oribasius and Ætius observe, are proper for those who are troubled with any kind of rheum, especially of the cold kind; sea air being warmer than that of inland places; or those labouring under nervous pains, or pains of the joints, and when the nerves are affected by sympathy^s. Celsus in pains of the nerves, or a rheuma-

^s Loca vero maritima hydropicis et quibus quævis defluxio molesta est accommodata sunt.—Sed profunt etiam omnibus iis qui nervorum et articulorum doloribus torquentur. Mediterranea sunt maritimis frigidiora. Oribas. *collect. med.* lib. ix. c. 11.—Marinus vero (aer) fluidis affectionibus, et præsertim frigidioribus, utilis est, et nervis per consensum affectis. Ætius *tetrab.* i. ferm. iii. c. 162.

tism,

tism, advises vehement gestation, or sailing, which in other pains is hurtful ^h.

Under the head of rheums may be comprehended all those disorders called colds, more particularly as they affect the lungs; by which, in a simple cough, is very often laid the foundation of a consumption: and in all coughs, according to the last cited author, a long voyage, and living near the sea, are useful ⁱ.

Asthma.

In frost, or the wind shifting to the east, some are grievously asthmatic, often with fever, from a constriction of the air vessels, and consequent inflammation. In moist weather the lungs are filled with a viscid tenacious phlegm, which hinders the free ingress and egress of the air, causing great difficulty in breathing, and labour in coughing. Some cannot breathe with ease, but in a free open country air, and more elevated situations.

^h Atque in ipso potissimum dolore utendum vehementi gestatione est, quod in aliis doloribus pessimum est. Cels. lib. iii. c. 27.

ⁱ Utilis etiam in omni tussi est peregrinatio, navigatio longa, loca maritima. Id. lib. iv. c. 4. sect. 4.

Others live easiest in the gross air of cities, and thick weather. Many are worse in summer than in winter; and an asthma is frequently by consent from the stomach, or some other bowels affected.

From the diversity of structure of the vessels of the lungs, it is, principally, that different asthmatics require such opposite airs to live in, and sometimes seemingly improper: for they may be too rigid and strait, or too lax, or of a more delicate texture, and endowed with greater sensibility. So that upon dissection a sensible vice of the lungs is not always to be discovered. In the worst cases they are, to view, very often in all respects sound, and without any morbid appearance.

As the causes of an asthma depend most frequently on the air, and particular conformation of the parts, we understand why those afflicted with it find no lasting benefit from any remedy, and but few remedies afford any benefit at all? Only therefore from an air rightly constituted as to properties, or qualities, is the most certain relief to be found; and to this the asthmatic must at last have recourse. Sea air is seldom
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tried with design. To accommodate it to particular cases, it must be remembered that, besides its greater action, it is of a kindly resolvent detergent nature; and the sickness at sea may be of great use.

In an asthma Cælius advises living much at sea, or in places near the sea^k. “A patient ill of an asthma, tending to a consumption, having used many remedies in vain, went to Neptunum. While he lives here, and breathes the sea air, he is easier, and finds himself almost well. But if, leaving this, he removes only to the neighbouring country, presently he is severely seized with his asthma, and other symptoms, and continues so until he visit again the sea air^l.”

Consumption.

A consumption is to be distinguished as proceeding from knots and other hardnesses of the lungs; or from ulceration; from rheums likewise; and the spitting of saltish or

^k Utilis denique maritima, et plurima mare tenus conversatio. Cælius Aurel. cap. de asthmate.

^l Baglivi de fibra motrice et morbosa, cap. xi. cui titulus de mutando aere in longis et difficilibus morbis.

sweetish phlegm ; by which the substance of the lungs, and of the whole body is consumed without ulceration ; which, if at all, does not happen till the last. This may be called a pituitous consumption. In whatever form it subsists, it is for the most part sooner or later mortal.

We often indeed meet with relations of a consumption cured, and remedies that are said to have cured it, which, from their success sometimes, if they contributed any ways to a cure, or a confident recommendation, are apt to impose, and procure a belief of their efficacy in general ; and too readily are the sick, I daily observe, disposed to place a confidence in them. It may be of use to undeceive such : and the more, as a fond conceit of certain popular remedies misleads frequently into a neglect or a distrust of means more rational, and more effectual perhaps ; but to which it must be owned, custom, which authorises every trifle, and a more delicate practice, have not yet so much vouchsafed their sanction.

Some plain remarks in practice fall naturally in the way here ; which in several particulars, not always attended to, may

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perhaps illustrate more the distemper, and shew under what circumstances these great affections, obstruction and ulceration of the lungs, are most frequently and successfully remedied, and by what methods.

The first is happily, and not unfrequently, remedied when it comes on suddenly, with more acute symptoms, fever, sickness, vehement cough, and wasting; by which early warning is given of the danger; and, by proper methods, the fever may be subdued, and fluxion prevented. This I have sometimes met with in an epidemical way, when a good many, at the same time under these appearances, were just falling into a consumption. Less alarming symptoms at first might have betrayed into a confirmed phthisis; and in some they ended in purulent spitting: but as the constitution was good before, and the habit not much impaired by a long continuance of the disease, they recovered. The reasons and use of bleeding, blistering, sometimes vomiting; mild diaphoretics with nitre, bathing the extremities, and gentle purging, are obvious.

Ulceration of the lungs is frequently cured too when it is brought on by abscesses from
accidental

accidental causes, such as fever, external injuries, or a singular encysted tumor suppurating. Many instances of cures here I can affirm I have seen : few I think die, provided there is no complication of previous bad habit, a phthifical disposition, or a wrong conformation of parts. Nor is the recovery owing to the pompousness or multiplicity of remedies : nature, I know it, duly supported and regulated, will in this case of herself do a great deal. A moderate use of the natural balsams, such as agree best, is generally good; and if nothing forbid, the bark, especially toward the end ; to prevent colliquation, strengthen the whole frame now much weakened, and confirm the tone of the part affected. But diet wholly vegetable, with much milk, has no small share in the cure ; and, in some extraordinary cases, the merit of a cure I have attributed almost wholly to it.

A lady, habitually subject to such ailments, complained of languor, and pain of the stomach ; her pulse scarcely discovering any signs of fever ; she was treated accordingly. Without any preceding cough, stitch, pain, weight, or soreness of her breast, or

difficulty in breathing, that could give a just suspicion of it, an abscess at last discovered itself in the lungs. She spit matter in great quantity, green and intolerably foetid; and was so emaciated, that she had truly the appearance, more than I ever saw, of a skeleton covered with skin, brown and parched. Her recovery was more remarkable, that the remedies she used, setting aside diet, were inconsiderable; for she was really long time, through weakness, not a subject for medicines.

A lady, after a feverish indisposition of some months, attended with severe pains of the stomach, great mobility of spirits, and an highly irritable state of nerves, but without cough or difficulty in breathing, had an abscess of the lungs; and, for several weeks, together with matter, spit up, in large quantity, pure bile, thick, insufferably bitter, and dying the tongue, mouth, and lips of a deep yellow, or almost a brown colour. This discharge ceasing she continued to spit matter more or less a long time. Little regard was had in this cure to common remedies called pectoral: those things that respected the
fever

fever were chiefly required and useful ; the diet was butter-milk.

Pus in the lungs, not accompanied with plainer signs that intimate the lungs to be affected, is very hardly discoverable. Many die of it, while the cause is not known : dissections shew this. In the two histories last related, the complaints were chiefly nervous, affecting mostly the stomach ; and by such only sometimes can the latent evil be detected. Obstruction or corruption of any of the organs or bowels, more especially the lungs, exhibit frequently appearances of this kind. A consumption is often ushered in by a low-spirited illness. Numbness, and an entire resolution almost, of all the extremities I have sometimes seen in the first stage. In a history to be given afterwards, we shall find it attended with tormenting hiccup. Once I observed it preceded by a simple mania ; once by a canine appetite, so craving and insatiable that the patient became delirious.

One thing to be attended to is whether the abscess has been contained in a cystis or bag. When it follows upon an extravasation into the cellular interstices of the lungs, this spreading and corrupting, inflames the parts sooner,

and brings on a speedy suppuration. But the humour confined within a cystis, affects the lungs no otherwise than by its pressure; and giving no irritation, being shut up in an insensible membrane, may lie a long time concealed, before it cause any great labour or inflammation of the parts; and in some we see it gives no disturbance to the parts at all. A cure cannot be obtained, until the cyste is entirely dissolved, or coughed up in a course of time piece-meal. The smallest portion of it remaining is an extraneous body, which like the hard substance put into an issue, or a tent indiscretely used, will be the occasion more or less of irritation and fluxion, and hinder the reunion of the part. The balsams, or other stimulating detergents, are here, I judge, of little use, if not hurtful; for they cannot affect the part to which the cyste adheres, and may by their acrimony, when much used, cause inflammation, and provoke more to coughing. Perseverance in a proper diet keeps the parts cool and supple. Exercise and repeated vomits will help to separate the cyste, pieces of which are sometimes brought up in vomiting: while by other methods, as they are indicated, the
 general

general state of health is secured, until impediments are removed, and the part is rendered sound.

As attended with some specialities likewise, which may afford farther remarks, I shall give two or three histories more. During the intense frost, 1739, a gentleman, after a pleurisy, with inflammation of the lungs, had an imposthume. For many days he spit a great deal of matter, and became wholly and to a high degree œdematous. Notwithstanding the long severity of the season, he recovered in the summer.

To facilitate the discharge of so much matter, and it was very great, I made him lie daily, at stated times, when it was most collected, in a horizontal position, his head, if possible, lower on the side that favoured most the issue of the matter, by which much of it was evacuated in a short time, and some respite was obtained from continual vehement coughing. Blisters on the ancles, and gentle purges, prevented a surcharge of the dropfical humour on the lungs.

Matter remaining long in the lungs oppresses and distends them, acquires bad qualities, and corrupts the parts more. A certain

degree of coughing is necessary to discharge it; but an incessant cough teases, heats, and exhausts the patient to mere weakness, and leaves him unable to cough; and opiates, though for a time they remove the cough, retain the matter, and do equal mischief. Betwixt these one is greatly embarrassed. Anodynes, such as diacodium, given frequently and freely, moderate the cough without suppressing it, as full doses of opium do. The expedient above-mentioned I have, on several occasions, practised with advantage: but caution must be observed, for the matter flows so much sometimes, that they complain of being choaked almost.

One of a thin delicate habit contracted a cough, which continuing long, increased, with daily wasting. Through mere weakness he was at last fixed to his bed, was much emaciated, and under a constant fever sweated constantly, and had a high hectic look. From these appearances, and his having little or no expectoration, I suspected an abscess. A vomit was given to hasten the rupture of it. This no doubt is attended with danger; but his safety depended on a speedy rupture, which happened a day or
two

two after ; and by an easy method he recovered.

Miss L—— ten years of age, after a continual fever, had a suppuration of the lungs, with large protrusion of the ribs. The violence of the pain made her always incline to one side, which caused a considerable distortion of the spine, and threatened an intire loss of shape. This in time was by proper methods removed : the disease of her lungs she recovered from likewise ; but without medicines, for she would take none.

In such cases I presume it is that a consumption is so often said to be cured. Many have spit up lesser imposthumes from time to time for years. But a great distinction must be made here. This is not the consumption that prevails most, that is most fatal : and many illnesses we know have much the appearance of a consumption, and are taken for it, which yet are not. Though in such apostemations of the lungs, there is frequently a fortunate issue, we must not flatter ourselves with equal success, when a consumption depends on a number of glandular swellings, happening from constitutional causes, or otherwise, in the way of a slow con-

congestion, as it is called, and afterwards ulcerating. Relief here is seldom sought, till the disease has deeply fixed itself in the badness of the habit, or firmness of the obstruction; and the favourable opportunity for a cure is lost.

A consumption is judged for the most part to be a disease of the scrophulous kind. This, as it gives a reason for the great obstinacy of the disease, from the nature of it, points out at the same time something of the cure; and shews likewise how ill appropriated and inadequate many remedies are, that have been too much boasted, and too much, I am afraid, trusted to.

From practice we discover great variety in both diseases, and a plain analogy. In a scrophula there is a material difference, according as the tumors are more or less benign, and attended with more or less inflammation. Some are so mild that they readily admit of resolution, or may be brought to a pretty laudable suppuration, and easily go off. Some are more unfavourable, and with difficulty yield to any method. Others are altogether untractable. In like manner in a consumption we see milder suppurations
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of the lungs, from time to time, healing with small care and pains; and in the intervals a cure seems to be obtained, and some do recover. So that neither in a true glandular consumption are examples wanting of cures. But if the habit degenerate, and new causes concur, more glands come to be affected, and those parts that have been healed remaining callous, are liable to new obstruction and suppuration, and the disease at length is fatal. But sometimes the obstructed glands, as in a bad scrophula, are quite schirrous, or almost cancerous; and either never perhaps come to an abscess, or when broken give an ill-conditioned matter, or foul sanious discharge; causing a malignant eroding consumption, and easily communicable; melancholy instances of which, in a train of infection, I have seen.

In this kind of obstruction of the lungs I formerly, according to the opinion of some, tried calomel in an alterative way. The effects were such as did not at all encourage farther trials of it. When crude mercury came to be better known, and more frequently used, this promised to be more safe and effectual,

effectual, and when given in a proper time will certainly be so.

A gentleman, from cold, contracted in the spring a hard, dry, frequent cough, attended with constant fever, night sweats, great wasting, and a meagre lurid countenance, which before was plump and ruddy. He received little benefit, as to the cough, from what was done for him at this time. In summer he drank goat's whey; and the fever being now much gone, he was allowed a glass of sweet wine two or three times a day. By these he got flesh, and strength, and a better look. As the year declined he began to decline also; and his danger from the ensuing winter, the cough still severe upon him, being very evident, he took the quicksilver pill. The effect was greater than I intended; for in a few days his mouth was a good deal affected. However the cough presently went off, and he very soon recovered a fine complexion, and good health. Next year the cough and symptoms returned, not perhaps to such a degree, but so as plainly to give apprehensions again of danger. The pill was given with more caution, but
with

with equal success; and he has had no return of his disease since.

A young lady was, in autumn, seized with a dry cough and hiccough, which alternately and constantly teased and exhausted her. She had also a pain of the side, slow fever, thirst, foul tongue, clammy night sweats, with loss of appetite and strength, and tendency to looseness. She had grown very fast, tall, and strong, and was just coming to her full height. Several of her family had about the same age died of a consumption. Small bleedings, issues, cinnabar, musk, and afterwards a quicksilver pill every night, recovered her from a threatening illness, and the dangerous period is long over. Similar instances might have been added, in which, by a similar method, formed obstructions of the lungs were timeously overcome.

But when the obstruction does not resolve, and the lungs become ulcerated, a cure is then very uncertain, very rare. Here all the force of physic has been employed, and the utmost efforts have for the most part been in vain. All the common remedies I have tried with so little advantage any way, that my faith in them has a long time been much abated,

abated, and some truly specious methods I have, in experience, had as little satisfaction from; which shews the great difference of ulceration here from that formerly mentioned, which is many times cured by a simple method, and very few remedies. Not therefore to the constant motion, as is said, of the part, but to the bad disposition of the ulcers themselves, is owing so frequently the impossibility of consolidating the lungs when thus broken.

So many are the contra-indications in a consumption, that in no disease are we more perplexed, and find greater difficulty. Opium allays the cough, but besides the hurt they do by retaining the acrid pus, and causing greater infarction, they debilitate mightily, destroy the appetite, cause costiveness, and heat, and inflammation; and for the most part are a hurtful temporary relief only. They live as long, and upon the whole as easy, who do not use them, as those that do. I do not speak here of cough or consumption from a catarrh, or erosion. The fever indicates the bark, but this increases the obstruction, and if the sweats are checked, causes greater cough, looseness, or hydropic swelling.

swelling. Those things which dry the ulcer stop the expectoration, and augment the fever and wasting: the fever and wasting require humectants, which render the ulcers more sordid, and add to the matter of colliquation. In every kind and stage, and to every symptom, a different method or medicine seems necessary. What remedy indeed singly, or combination of remedies, in common use, can satisfy so many indications as arise in a consumption; in which, like certain fruits on the same tree, part is green, part coloured, and part fully ripe, the glands of the lungs are found in so many different states, crude, inflamed, suppurated, broken; and while moreover a complicated fever, depending on these, inflammatory, hectic, and putrid, prevails in the body?

In mere tendencies to a consumption, perhaps in the very beginning of it, and in the convalescent state, riding is certainly of great use; but in many cases it is plainly forbidden, nor can the sick always bear it. The pain I often observed they underwent in riding, and the little benefit derived from it, made me early wish for some other gestation, in general more safe, easy, and effectual.

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The many disappointments I have met with are more than enough to convince me that it comes far short of the high opinion that has been formed of it, and the assurances given of its success. I am not ignorant that some, given up to their fate, have beyond expectation recovered by it; but a few instances are not to be reckoned in a general estimate of the advantage. If it is really such a specifick as hath been asserted, whence is it that so many die, even after full experiment made of it? Few, I believe, perish of a consumption, from a neglect of this so much magnified exercise in it.

Milk, which in all ages has been so much celebrated, from the praises bestowed upon it, and its being so constantly prescribed, one is almost persuaded to believe a sovereign remedy, and sufficient of itself for a cure. When there is no fever or head-ach, and the stomach is able easily to digest it into perfect nourishment, it is undoubtedly an excellent food, and no less a remedy, especially in thinnesses disposing to a consumption, and during the recovery from many diseases. In former times milk was directed to be drank to some quarts a day. In any quantity

tity it naturally disagrees with some ; and but in moderate quantity I find it very often aggravates symptoms, or produces new ones. Butter-milk excepted, I have never, in a real phthisis, observed much benefit from it.

Mild suppurations from time to time of the lungs, I said I had observed healing with small care and pains. There was little or no fever, except during the suppurations; the matter was well conditioned, bloody at times, and equably mixed; and the ulcers were probably few, if more than one, and small. Here they seem to approach to the nature of a common abscess, and the morbid glands, as in a simple phlegmon, are more thoroughly melted down into pus. The detergent balsams are in this case of sensible benefit. But when the tumors have been of a more indurated, or higher scrophulous kind, as I suppose, and there is much heat, or what there is feels biting and sharp, and of the hectic kind, most frequently I observe no effect from them at all, or sometimes a bad one. The matter indeed may decrease perhaps, but it becomes thinner and less digested; the breast

I feels

feels tighter, and the breathing grows worse ; and bleeding cannot always be sustained. And as the glands are found in very different states, the hotter balsams, at the same time they are intended to cleanse and digest, may by their heat cause greater fever, and dispose to suppurate such as are still crude, or only inflamed, and yet capable of resolution ; which, while we endeavour to deterge those already ulcerated, ought by all means to be attempted, in order to prevent greater purulence, and consequently greater consumption. From the vast numbers of those that die consumptive, after a plentiful use of balsamics of all kinds, we have a mortifying proof, that even medicines of this sort are not often to be depended on.

In milder cases of suppuration, the bark too may be given in small quantity, as it keeps up the appetite and digestion, strengthens the habit, and helps to consolidate : at least I have not observed it to do hurt. The less there is of fever, with the more safety and benefit will this remedy, so hurtful in other circumstances, be made use of.

In cold consumptions, whether glandular or pituitous, bleeding is plainly forbidden.

Where

Where there is a good deal of inflammation, with fizy blood, and the pulse pretty full, it not only abates the general inflammation, and that of the parts, but by drawing off a quantity of the old heated diseased fluids, makes room for new cool and sounder juices. I have observed it to agree well too when the pulse was good, though there was no general inflammatory disposition, or fever that seemed to require it. For the lips, as in all ulcers, being always more or less tumid, if great pains are not taken in time by bleeding, and other fit methods, to extenuate them^m, remaining long in this state, grow callous, which prevents healing, and an incurable more speedily consuming phthisis is brought on. Or, the habit not bad, the ulcers may, without impairing health much, or proving soon fatal, continue a real issue in the lungs for life. Nor is it improbable that nature, ever careful to preserve the individual, may sometimes this way, as she often does by an ulcer else-

^m A friend of mine who understands well the use of it, believes quicksilver upon this intention to be safe, and that it may be often effectual.

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where, throw out some noxious humours, which otherwise might sooner destroy life. Many have been observed to live with ease and safety, many years in a consumption. In vain, I imagine, and improperly too perhaps, is a thorough cure here attempted.

Under these conditions of the blood and pulse mentioned, bleeding is of still more advantage in the state of tubercles, and notably helpful to resolve the obstructed inflamed glands, tending fast to suppuration. Not the greatest number however, few perhaps comparatively will, I am apt to think, be found proper Subjects of this operation; which, regarding duly all circumstances, that it may, in the prospect of a cure, do real good, and no hurt, must be practised, in most cases, with very great caution and judgment. I am not considering it as merely palliative. If on trial of it the pulse grows quicker, and more contracted, or thready, which it commonly is in a consumption; or the blood is discovered loose in its texture, no success is to be expected from the method; which persisted in, will endanger more, by exhausting too
much

much, and disposing more to colliquation. The consumptive generally do not abound with blood, therefore little is to be taken away at once; and at a certain time, even when the strength and spirits seem not to be greatly impaired, every drop of vital fluid is precious, and the loss of it irreparable; as all the assimilating powers are low, and no more blood remains perhaps, than is just sufficient to maintain a feeble circulation. An officious concern now, by bleeding to give relief, under some present urgency, I shall suppose, of symptoms, has caused sudden coldness, and depression, and irrecoverable weakness: death, under such a defect of fluids, I have known oftner than once very soon the consequence.

There is no single remedy, commonly advised, of more certain benefit than issues: but they are best suited to the circumstances of a beginning consumption. Though the good effects of them, in this state, were less evident from practice, reason pleads for their use. They are weak parts, and lessen the impulse upon the parts affected, which, without such precaution, might thereby be brought sooner to suppuration; and this is

what we are so sollicitous now to prevent. When bleeding cannot be so freely admitted, they will slowly diminish the quantity, without impairing the strength. They are very effectual in rheums; especially of the head, jaws, and breast, which have some relation to a consumption; for colds are a great cause of it, and very often a cough and a tooth-ach alternate. Many have grown fat on wearing an issue. I wish observation made it appear that they are materially useful in more advanced stages of the disease; I speak always with respect to the event. Unless the body is much emaciated they can do no hurt, and may do good, as they will perhaps draw off a portion of the putrid humours, and so abate in some degree the fever, and its consequences. Such great effects however as have been told us, we are not often to expect from them, and indeed I have not found. Some circumstances of constitution too, or of the disease, may sometimes render them more necessary. Issues made by blistering are best in cold constitutions. When there is heat and inflammation they ruffle exceedingly, and keep up the fever. Pea
issues

issues are easily borne; and a seton in the side has done considerable service, especially when pain and weight of the part pointed out this as the proper place for a drain, by removing these.

An early and constant use of butter-milk, more or less soured according to circumstances, will be found most effectual to alleviate symptoms, fever, thirst, sweating, and looseness, prevent their overbearing, and render life easy under them: seldom does it fail. It is sufficiently nourishing; gives no uneasiness to the stomach; serves both for food and drink; and makes this last very little necessary. It is opposite besides to the putrid inflammatory nature of the disease. And as the vehemence of the cough depends much on the degree of the fever, by restraining this, it gives great relief in that also. Even when there is little or no fever I still prefer it; and would rather indulge the sick a little wine to support them under any lowness, than allow even a small quantity of animal food, as what is thought, but very injudiciously, more nourishing and strengthening.

Bleeding, issues, a prudent use of crude mercury, and of the natural balsams, accommodated to the kind, stage, and degree of the distemper; diet, and a sea voyage seem to comprehend every thing essential to the cure of a glandular consumption. Other remedies I look upon as of less importance. They may be occasionally and accidentally good; but their virtues are in a low degree, and no way proportioned to the greatness of the malady; their effects therefore must be small and uncertain.

As sailing was early accounted a remedy, so most generally has it, by authors of the greatest eminence, been held of principal use in a consumption. Thus Cælius, “ Gestation is of the greatest use, and a long
“ sea voyageⁿ.”. And Aretæus, “ If nothing
“ forbid, let the sick be carried on the sea,
“ and there let him live^o.” Celsus likewise,

ⁿ Et propterea vehementer utilis navalis gestatio, atque longa navigatio — et omne quod dare corpori fortitudinem potest. Cælius Aurel. lib. ii. c. 14. *de phthisica passione*.

^o Nam si recte habuerit ægrotans, in mari gestatio fieri poterit, atque ibi vitam deget. Aretæus *de curat. phthisis*.

“ If

“ If it is a real phthisis, a long sea voyage,
 “ if the strength will bear it, is necessary.
 “ If through great weakness this cannot be
 “ undertaken, it is yet best to be carried in
 “ a ship, but not far^p.” Riding, Pliny has
 remarked, is of the greatest use in diseases
 of the stomach: sailing in a phthisis^q. But
 in the following article we shall find it
 mentioned by him, with particular circum-
 stances, as a practice in this distemper. In
 all kinds of consumptions, says Dr. Mead,
 change of air is generally good, sometimes
 a long sea voyage^r. Nor has Boerhaave
 omitted sailing, as a proper means to break
 the abscesses of the lungs, and deterge them
 when broken^s.

A strong alterative virtue in sea air, an
 air duly qualified so as to render it a fit
 application to the lungs externally, and a
 singularly adapted exercise, all concur to-

^p Quod si vera phthisis est, opus est, si vires patiun-
 tur, longa navigatione. Si id imbecilitas non finit,
 nave tamen, sed non longe, vectari commodissimum
 est. Cels. lib. iii. c. 23.

^q Plin. hist. lib. xxviii. c. 4.

^r Mead monita et præcepta medica. Cap. de febris
lentis.

^s Boerhaavii aphorism. § 857, 858.

ward the cure of a consumption, in this simple method of sailing.

Spitting of blood.

Spitting of blood is both the fore-runner and cause of a consumption, and a symptom of it. Sometimes it is a disease of itself, when it happens in the way of mere transfudation; and some are, from this cause, habitually subject to it, a great part of life, without much danger, or any consequent disease. Tumified glands compressing the vessels are often the occasion of a rupture of them: and the blood falling into remoter branches of the wind-pipe, not being coughed up, corrupts, becomes acrid, and brings on erosion. The exercise and vomiting at sea will, I apprehend, in these cases, tighten the relaxed orifices of the vessels, make a strong revulsion, and discharge what is extraneous in the lungs. It is directed however, when the flux is once stopt, or the disease become chronical. Anneus Gallio failed for the cure of a consumption and spitting of blood, Pliny in his history informs us^t; as does

^t Præterea est alius usus multiplex (aquæ marinæ), principalis vero navigandi phthisi affectis, aut sanguinem
likewise

likewise the younger Pliny, of Zozimus his freed man, cured of a spitting of blood, by sailing to Egypt, and staying a long time there ^v. Celsus in this complaint advises living in maritime places in winter ^w.

Somewhere I have met with an observation of an uterine flux suddenly restrained upon a voyage at sea.

Difficult Recovery.

From the long continuance or severity of a malady, the digestive and assimilating powers are impaired; and the fluids being heated, and deprived of their balmy spirituous parts, or acquiring vicious qualities, are rendered unfit for nutrition, and animal uses. Hence that depravation of humours

egerentibus; sicut proxime Anneum Gallionem fecisse post consulatum meminimus. Neque enim Ægyptus propter se petitur, sed propter longinquitatem navigandi. Plin. hist. nat. lib. xxxi. c. 6.

^v — frangeret me tamen infirmitas liberti mei Zozimi — nam ante aliquot annos, dum intente instanterque pronunciat, sanguinem rejecit; atque ob id in Ægyptum missus a me, post longam peregrinationem confirmatus rediit nuper. Plin. epist. xix. lib. v.

^w Cels. lib. iv. c. 4. § 5.

known

known by the name of a bad habit, and taken notice of as the consequence, as well as the cause, of diseases. Perhaps, from an imperfect termination, there may be still some lurking remains of the disease, in a formal shape, or more obscurely, which nature, in a depressed state, is not able fully to exterminate or subdue.

Exercise, and change of air, have always been chiefly depended on in a slow doubtful recovery, and effectual when other methods failed, to prevent a relapse. How much exercise, and air at sea, contribute to enliven and strengthen the vital fluid, is very evident, in many circumstances, from the histories given ; in most of which a recovery was brought about more by living a short time at sea, than could have been expected in a much greater, if at all, or to such a degree, in our climate at land. The effects almost constantly were, and very soon, greater appetite, more spirits, abatement of symptoms, and an increase of strength ; a few days making often a remarkable change, both as to health and the disease.

An

An atrophy as well as a cachexy is failing likewise directed in ; and, according to Ætius, the alternate motion and rest the body undergoes in it, will, if any thing can, dispose it to be nourished. In the nervous atrophy particularly, following the dry belly-ach, or colica pictonum, so frequent in the West Indies, it has been long, I am well informed, a common remedy. Upon the abatement of the symptoms, says Dr. Towne (*chap. of the bilious colick*) and recovery of the patient, Sydenham very justly recommends riding, as a prevailing means to prevent the return of the fit, invigorate the bowels, and strengthen the concoctive powers. I have frequently experienced the good effects of this advice : but there is still another exercise, which I have observed to be of more speedy, more lasting, and more effectual benefit ; and that is being carried round the island in a ship or sloop, which is a convenience few need want in Barbadoes. I have seen those who were reduced to the most calamitous appearance, and even upon the verge of the grave, from a long continued colick, in a week's time recruited

cruited to a degree beyond expression, only by this method of sailing, when they were incapable of undergoing any other kind of carriage.

A P P E N D I X.

Concerning Bathing in fevers.

THE natural malignity of the disease is, no doubt, most frequently the great impediment to a cure in fevers. By mismanagement and irregularities in the sick themselves, or a perverse treatment, the disease is often aggravated, or some new malady perhaps brought on. If remedies are not administered till late in the disease, those changes intended by them cannot be effected before the time that a doubtful crisis must take place. But a premature administration of remedies, is generally no less hurtful; for nature here, at a time not proper to assist her, suffers all the effects and violence of them, without benefit; the disease still increasing, and a crisis not near. In these and many the like unfavourable circumstances, some higher assistance than common practice directs,

directs, or has thought fit to encourage, seems many times necessary. Bathing the whole body in fevers is not new. When elsewhere^a I long ago mentioned it, it was with a full intention, some time or other, as opportunities should offer, to make trial of it. The success that attended its use in the following cases, all indeed in which I have tried it, gave me no cause to regret the experiment, and necessity justified it.

I. A young man, somewhat of a slender make, was in the beginning of a fever bled, vomited, and purged. I saw him first the sixth day, but could not determine the kind of fever. The seventh at night his head began to be affected; through the night he was very restless, and in the morning quite delirious. He was pale, his eyes sunk and muddy, with a tendency to inflammation, his features sharp, his skin dry and hot; and a shrinking of the solids gave a general appearance of being much wasted. The pulse in proportion grew low, the tongue was parched, and he passed his urine insensibly. This was a case of much inanition, the affection

^a *Medical Essays*, vol. v. art. 48.

of the head was come to a great height early in the disease, and all kinds of medicines he threw up ; nor was a crisis perhaps to be expected before the fourteenth day. These considerations determined me to bathe him. A small blister was applied to his head, and he was put into a bath, prepared with garbage and bran, which he bore easily ; and, when put to bed again, he fell into a composed long sleep, his skin became soft and cooler, with a kindly moisture upon it. Six days running he was bathed, and always with the same good effect. The twelfth day a large parotis was discovered, hard, inflamed, and painful to the touch, which in two or three days went off, without any bad consequence. By thus bathing, a clyster now and then injected, and wine added to all his food and drinks, for it was refused pure, he recovered, and was soon again strong.

II. A gentleman, upwards of sixty, pretty corpulent, and all his life accustomed to live freely, was seized with a fever. I did not see him till the eleventh day. A delirium appeared early, he had been bled twice, and blistered, and was now quite insensible,

as he had been for some time, with a heavy sleepiness upon him, but awaking often as in surprize, raving and muttering. His eyes were much inflamed, and his looks wild, his face full and red, like one apoplectic or drunk. He had a constant hot sweat upon him, and a subsultus. The pulse indeed seemed to be good, that is, full and equal, and not quick; but this, we know, is not always to be trusted to, other bad symptoms increasing. The inflammation of the brain so great, and the time for any thing to take effect before the usual mortal period being so short, and his advanced age, in which the vessels have lost much of their action, all required a speedy and powerful assistance. Having to do here chiefly with a local affection of the brain, blood was taken from the temples by leeches. A seton was put into his neck, and he was bathed, the wounds from the leeches still bleeding, in a decoction of the emollient and mild aromatic plants. After bathing he slept long and sound, his skin was cooler, with only a breathing sweat upon it; and next morning he appeared a little sensible; still more so after a repetition of it; the use of which
every

every day, for three or four times, I directed, and a refreshing julep to sip of frequently. He recovered.

III. My advice was asked for a woman who had been more than a month in a fever. She slept none almost the first fortnight; the second she was delirious, with great subsultus, and had a constant disposition to sleep; out of which she frequently started, perpetually talking. For two days she appeared much better, but relapsing became quite insensible, and the delirium and subsultus were now higher than before. I advised a bath, which she sustained only a quarter of an hour, and lay after it pale, faint, and sleepy, for an hour or two. She became less delirious however, slept the best of the night sound, in a natural posture, which formerly was always supine, and after a second bathing, which was longer, grew pretty sensible; the subsultus went off, and continuing to have refreshing sleeps, in three days all the symptoms were much gone. She had another relapse, but by repeating the bath, this she got over also; though greatly now, we may imagine, in all respects reduced.

This patient, it is to be observed, was always faint in the bath, or for some time after it, which might have been owing to her being so much exhausted, by the long continuance of the disease, and having been bled with leeches, which on a wrong relation of circumstances I had ordered. It is observable too, that on changing the bath of water with herbs, for one of broth, which caused a troublesome itching over all her body, she was sensibly strengthened and restored. I had occasion to see her accidentally soon after, and found her recovered much more than I have usually seen in the like cases, having nothing of that incapacity, languor, or delirium, which often remains long after tedious wasting fevers, where the head has been to a high degree affected; and it is likely was prevented by the quick supplies of nourishment afforded, from bathing, in the recovery.

IV. A woman, the fifth or sixth day of her lying in, fell into a continual fever. I prescribed something in the common way, without seeing her, and without effect. The fever increasing, I was desired to see her the ninth or tenth day. According to the best
pro-

prognostic I could make, she was in circumstances I had not known one outlive twenty-four hours, if so much. She had not slept a great while, was completely delirious, knew no body, could speak none, only faltering, with involuntary shew of laughter, and not able to form her voice, she vainly attempted to speak. Her eyes were fierce, and greatly inflamed, her countenance red and fiery, she trembled universally, was restless, tossed continually, and in an anxious hurry stared wild, and caught at every thing; under heat and agony sweating profusely; her pulse in the greatest disorder. Without the smallest prospect of doing any service, I said they might, if they pleased, put her into a bath of warm water, and left her. This was more readily agreed to, as she was now in every one's eyes dead. Next morning, to my great surprize, I was informed, by a message I had desired, if she lived so long, that after the bath she became somewhat sensible, and slept, but was still delirious. I caused the bath to be repeated every day; by which, and proper diet and management, she recovered. But it was long before the affection of her head went entirely off,

and not without danger of having her faculties impaired. In no case have I ever seen one so evidently rescued from imminent death.

V. The fourth day after delivery a woman was taken ill of a fever, the fourth day of which I was asked to go to her. Next day she was delirious. After directing what was proper otherwise, I advised bathing if the delirium increased or continued. They bathed her once, but apprehending her the worse for it, it was no more used. She died the seventh day.

VI. It was tried likewise in the case of a young gentleman, who, after a low-spirited illness, which a little before had gone off, fell into a fever, attended from the beginning almost with obstinate delirium and watching, but without any sensible effect any way, though other remedies, the fittest, were at the same time administered.

A friend, at my desire, and upon having seen the success of bathing in the gentleman's case of sixty above related, was encouraged to try it in the following cases, which he has favoured me with.

VII. Mr.

VII. Mr. M——, aged fifty, the eighth day of the fever, was blistered, and used the warm pediluvium. He became so delirious that two strong men were necessary to keep him in bed. On the tenth I found him, his head prodigiously affected, under constant raving and restlessness, his eyes much inflamed, his pulse low and unequal, and his tongue rough and black. I was told he had not slept for three days and nights. Leeches were applied to the temples, and as soon as it could be got ready, I put him into a warm bath, and held him there by force twenty-seven minutes. After it he fell asleep, and slept from betwixt six and seven in the evening, till six next morning, and never stirred but once to take drink; and had at the same time a plentiful sweat upon him. When he awaked he was more composed, and sensible at times, his pulse better. He was bathed again the eleventh, half an hour in the evening, and slept from seven, till near five in the morning, and awaked as sensible as ever he was in his life, and his pulse regular; only a kind of stupor upon him, owing, I imagined, to a deafness, which went off in a day or two. The third time

he was bathed, he went into the bath himself, without the assistance of any body. He was bathed five times, always with the same effect, and recovered very soon.

VIII. A strong lusty young woman had the same fever. I did not see her till the thirteenth day. She had been delirious five or six days, and slept almost none all that time. Before, she could scarcely be kept in bed, but was now much worn out, and weak. Her eyes were inflamed, her tongue black and parched, her pulse low and trembling, with tremor all over her. She was bled with leeches, and bathed directly, near half an hour. This produced a plentiful sweat, and she slept from three in the afternoon, till five next morning. Her pulse recovered a good deal, and she was more composed, though still insensible. I pursued this method, which always procured sleep and sweat; but she did not become sensible till after a fourth bathing. She was bathed six times, and soon grew well.

IX. Another young woman I saw the ninth day of a fever. Her head was affected, she raved and was very restless, her eyes were inflamed, and her pulse unequal.

equal. She was bathed twenty-five minutes, slept well, and sweated moderately, and was sensible next day. She was bathed only thrice, and recovered.

A bath applied to the whole body, affects more immediately and certainly all the solids and fluids than any other remedy possibly can do. While, by its warmth it causes a transpiration of the morbid humours, much of it passeth into the blood, by the absorbing veins; and the changes produced in all the fluids, by increasing their quantity when deficient, diluting, or some other way altering them, is obvious. But the effect it has upon the solids is still more evident, as it highly soothes and comforts the whole body, by taking off remarkably the febrile stricture. A spasm is essential to all fevers, but more peculiar to some. This spasm increasing into delirium, and higher nervous symptoms, causes a disordered circulation, interrupts the regular operations of nature to subdue the fever, or bring the matter of it to concoction, and throws the fluids upon improper places. The fever excites the spasm, the spasm again aggravates the fever, and their effects are reciprocal. If we can allay the over-bearing
tension,

tension, we remove one great cause, or a chief symptom of the fever, sometimes principally to be considered: for then the disease becomes simple and mild, as the nervous affection adds greatly to the malignity and danger; the local disorder of the brain being at last the immediate cause of death. A fever with delirium is a complicated disease.

After bathing, the sick fall into a sleep, sleep long and sound, the delirium and subsultus gradually abate, the skin before hot and dry grows cooler, and has a kindly moisture upon it; profuse sweats, which are not of the nature of the disease, but symptomatic only, and the consequence of a general spasm, become moderate; and the fleshy parts, now less constricted, feel plump and soft: all signs these that the morbid tension is much relaxed. Wine internally, and bathing externally, are in many respects analogous.

Let us hear on this head what was said by the antients. *Balnea aquarum dulcium calefaciunt nos et humectant, quod calori habeant humorem conjunctum. — duras tenasque partes emollit (balneum), excrementum liquamentumque quod intus hæret ad cutim evocat.*

evocat. — Balnea moderata corpori restitunt mediocritatem temperamenti, vires corrigunt, opportunum calorem augent, ac denique una cum sudoribus non nihil flatuum discutunt. — A balneis igitur vacuatur quicquid in corpore vel fumidum vel fuliginosum præfuit. — Ex balneis duo hæc ægro compendia accedent, et quod redundantie humorum vacuabitur aliquid, et quod multum transpirabit caloris febrilis. — Nam id sane mirum balneis inest quod tam calidis profint quam frigidis siccitatibus : quemadmodum et illud quod eos siticulosos efficiat qui sitis sunt vacui, a siticulis vero sitim abigat. — Si sola febris constiterit balneum exposcit, non secus ac cæteræ siccitates, quæcunque vel calidæ fuerint vel frigidæ. — Huic succedunt plane excrementorum evacuatio, æqualis per universum corpus calor, exiguorum meatuum rarefactio, tensorum laxatio, densatorum fusio. — Balneæ siquidem eo quod madefaciunt caput, soporiferæ sunt.

These things, many of them, it will be observed, relate to bathing in all its parts, as practised by the antients. Yet moderately warm baths of water, by their heat, moisture, pressure, and continuing a sufficient time in them, will more or less produce all
the

the same effects; and in fevers (though cold bathing was sometimes, as in great ardency, admitted too) are best suited to the condition of the sick, and circumstances of the disease, in our climate; much more when properly medicated, as they were directed to be. An ingenious explication of the mechanical effects of bathing, see in Dr. Glas's *account of the ancient baths.*

An erect posture is justly condemned in acute diseases, as it often causes weakness, fainting, and sometimes death. For want of right conveniences the sick were all thus bathed, without any consequence to be dreaded. I reckon the warmth of the bath, procuring greater strength and freedom of circulation, and determining more to the surface, prevents that lowness, and retrocession of humours, caused by sitting upright. If any danger is apprehended from it, having a proper vessel, they may be lifted and bathed in an horizontal posture. But it should be attended to, whether, in some cases, the warmth of the bath may not, in a lying posture, cause too great an afflux to the head.

Although, from the disturbance they suffered, on being put into the bath under an increase of the fever, I sometimes thought the sick were not so immediately benefited by it; that is, were some way more disordered, and not so composed after it; yet the most proper time for bathing, and when its effects are most wanted, is the access. For as it disposes to calm sleep, and seems to regulate the discharge by the skin; promoting it when too little, and restraining it if it exceeds; the exacerbation, which happens sooner or later in the evening, increasing through the night, is lessened or prevented: the head is preserved from high impulses of fever and delirium, in which chiefly safety consists; and the symptoms are kept moderate, until the humours are concocted, and the disease terminate. The time of continuing in the bath was from fifteen to forty minutes or more, as it could be borne.

Frequent use, if ever it shall be brought into use, and in a variety of cases, can only determine in what kinds of fever bathing is a fit remedy, and what are the times most proper for bathing, whether early or later, in the increase, or toward the state and in
 2 the

the decline; in which a regard must be had likewise to many other circumstances, as they respect the disease itself, the climate, and season, age, sex, and particular habit.

When or whence it took its rise I am not able to inform myself, but yearly almost, in the season, I see intermittents successfully cured by a method of bathing, on the approach of the fits, and drinking daily a light steel water; and this when the disease has been of long standing, frequently relapsing; or is become anomalous, and the common febrifuges avail little. Few go without a cure, though somewhat tedious.

Doctor Fisher has informed us of the great success of constant bathing, through all the different stages of the small-pox.

There is no case in which it seems to be more indicated, and to promise more relief, than the higher instances of pleurisy and peripneumony; to which may be added a paraphrenitis. It must far exceed those partial bathings so much, in this class of diseases, recommended: for applied to the whole chest, it will affect powerfully all the containing parts; cool more effectually the inflammation; and, by relaxing kindly the
vehement

vehement constriction, give greater freedom of respiration. The vapour too drawn into the lungs promotes expectoration. *Concoctis jam affectionibus, balneum citra periculum adhibetur, quum etiam ad expurgationem sputorum, quæ pleuriticorum, et peripneumonicorum thorace et pulmone continentur, maxime conferat. In iis erga qui sic affecti sunt balneum iterari nihil prohibuerit. Oribas. collect. med. lib. x. cap. i.*

One in a peripneumony, accompanied in the beginning with a strong gouty appearance, never expectorated, and was delirious. A bath was tried, but, as the event shewed, too late, being the seventh day, which had been prognosticated fatal. Though some, in the preceeding histories, seemingly to me as bad, were plainly saved by it, this instance brings to mind a remark given us concerning it; that bathing, which may be of use to many, should, in desperate diseases, be cautiously employed, lest, not proving successful, it cause abhorrence in the vulgar, and a contempt of it.

Military and naval hospitals afford the best opportunities every way, to ascertain and improve a practice of this kind; which, how greatly soever dreaded always, from
a suffi-

a sufficient experience of it, I am now certain, when directed with judgment, is safe, easy, and friendly to nature.

The following is an extract of a letter from the Author to a friend in London, dated April 20, 1756.

One complained for some days of a cough, disorder of his stomach, and oppression. Asking advice, he was found under an obscure delirium, which soon increased into furious raving. He called incessantly for drink, but when it was offered, shewed great horror, and dashed it from him, or if he tasted it spit it out with vehemence, threatening to bite those who held him. After a day and night in this way, no relief being obtained from blistering the back, and other things used to quiet him, he was bathed, and blisters were applied to the legs. In an hour or two he fell asleep, slept four hours, and awaked very sensible. He went into the bath next day himself. I happened to see him at this time. The disease seemed to be going on in the form of a fever, with considerable heat, quick pulse, and dry tongue. I approved of continuing the bath, to prevent a delirium, and remove the fever.

S U P P L E M E N T

To a T R E A T I S E of

The U S E of S E A V O Y A G E S in M E D I C I N E.

WHAT I advanced, not long ago, in a treatise of the use of sea voyages in medicine, was in general enough, perhaps, to recommend to the attention of others, a practice which appeared to me of no small importance. It has been hinted, however, that the matters treated of might, in many places, have been enlarged on with propriety ; and as I had often only just mentioned things, an explication of them would not be unacceptable. I have ventured, therefore, if it can afford any satisfaction to the reader, or at all profit the subject, to throw together

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ther some few considerations more relating to it ; and with the greater assurance, as, from my own experience of the method, I have of late been furnished with still farther instances of its success ; which serve to confirm, yet at the same time render less needful, those conjectural reasonings I was obliged, sometimes, for the sake of the inquisitive, to indulge myself in. The more candid and experienced will judge of these things according to their use and tendency, and though they should not, in every point, altogether approve of them, with such every well-meant attempt will, at least, find a favourable reception.

Two or three things in the philosophical part have been objected to, but how justly, I am not yet certain ; and as the general argument is not affected by any thing that has been said, a formal answer did not become necessary. Order required, that I should set out with some principles ; and from different authors, as well as my own observation, I collected all those circumstances in the air and exercise at sea, that plainly distinguished them from air and exercise at land ; from whence, regarding
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things purely in a scientific view, it seemed reasonable to conclude, that sailing, and living at sea, might be a proper remedy. The main concern was to evince it from practice ; without which, all endeavours to persuade would be as much in vain as impertinent. This, a pretty large experience of it, in a variety of cases, has enabled me to do fully, I hope, to the conviction of every one. Without producing others, the histories already given of cures by sailing, are of themselves an incontestable proof of its efficacy ; and these not in slighter ills, for which it would have been ridiculous to advise it ; but in diseases obstinate in their nature, and often mortal, and where other remedies, the most powerful, were altogether, as to a cure, ineffectual.

The greatest experience I have had of sailing has been in a consumption. This is the endemic of Great-Britain, a disease scarcely more frequent than it is fatal ; and especially to those of the finest spirit, and the finest make ; who, from this their frame, seem to be destined early victims to the insidious cruelty of a slow but sure-killing distemper. As I have always had it

principally in view, I shall in the present remarks confine myself chiefly to it, and endeavour to shew, more clearly, the conformity betwixt the remedy and the disease, which may, perhaps, in particular cases, direct to a more successful application of it.

In the free, equable, uninterrupted circulation of the blood and humours, and the excretion in due quantity of what is superfluous, does life and health consist. This supposes a right constitution of the fluids, and action of the solids. The blood is so constituted as to act constantly on the vessels as a necessary stimulus, to instigate their motions. The vessels again acting upon the fluids give them their consistency, and a greater degree of motion ; and thus they become mutual causes in the great business of circulation. The blood, though a very glutinous fluid, is observed, notwithstanding, to be very effluent and penetrating, by which it is wonderfully fitted to circulate in vessels extremely small. Whence this greater effluency arises, whether from a particular elastic principle in the blood, or supposing it the result of an intimate union

union and commixture of all the parts of which this singular fluid is composed, can be of no great use here minutely to enquire.

The present great source of philosophical enquiry, electricity, shews, that there is a mighty actuating principle diffused through all nature, which pervades all bodies, and is found to exist more or less in them. In animal bodies, if we believe a favourite conjecture of some, it is the chief cause of heat, vitality, and the motion of the fluids. It may be generated, so to speak, in the body by means of a certain process continually going on while life subsists (see Dr. Stevenson's theory of med. essays, vol. vi.) or is derived from without. In confined air fire is extinguished, vegetation is stopt, and fermentation ceases. In it an animal languishes, becomes unhealthy, and dies. That the sea is really a proper and more plentiful source of electrical æther, I will not take upon me to affirm. Some things seem to favour the notion, others are against it. However it be, this I am well assured of, from constant observation, that there is something in the air at sea highly vivifying.

and restoring, beyond what I have ever observed at land. What it is that, in a free communication of air, is found so essential to life, and where it principally exists, as there is room at present for conjecture only, I shall leave to others, more versed in such enquiries, to determine.

The blood is, besides, a fluid of a saline bituminous nature, and inflammable when dried. From the uniform mixture, in due proportion of its several principles, arises that soundness of humours, which is the true foundation of a healthful state; and when it deviates from this just proportion on either side, there is a disease. If the saline sulphureous principles prevail, diseases of the acute, ardent, inflammatory kind ensue. But when from a deficiency of the more active parts, in which its spirituousity consists, the blood becomes poor and effete, those diseases that depend on a languid motion, obstruction, and a vapid putrescence, will be the consequence. In order to supply the defect, we endeavour, by a variety of remedies, well known, to store the blood with warm, stimulating, balsamic, strengthening parts; by which the vessels are ex-

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cited to greater action, and a brisker circulation is promoted; and we have a proof of their fitness in the happy effects brought about by them: but these effects are still more remarkably felt at sea. If the constitution of the blood is such as hath been described, if there is a constant emission by the pores of what is redundant, and air, with all its qualities, is, in some proportion, attracted, living at sea there will be a continual accession to the blood of parts (abounding in the sea) similar altogether to those of greatest energy in its composition; the invigorating power of which must be communicated to all the fluids, and the whole body will very soon partake of it. Without admitting a supposition of this kind, I have not been able to account to myself for the sudden return of appetite, spirits, strength, flesh, and indeed lasting health, commonly observed, on living but a very short while sometimes at sea. But, leaving these as matters of a more speculative nature, though fit to be taken notice of in a history of air at sea, one thing will be obvious to every one, that air here being, in the general constitution of it, warmer in

winter, and agreeably ventilated in summer, must, in every season, especially in some particular diseases, be more than ordinary safe and healthful.

A consumption is more generally fatal, and yet is more generally neglected, than any other malady, at a period in which a cure can with any certainty be attempted. The slow unsuspected manner in which it commonly attacks, for the most part gives no immediate apprehension of danger; and, being attended with little pain or sickness, the hopes of recovery, even in the most deplorable state, are often, through all the lingering course of it, vainly entertained. A spitting of blood sometimes gives the alarm, and early warning of its approach. This appearance has been always, and justly dreaded; and, except when it happens in the way of mere transudation, or is brought on by accidental causes, in habits otherwise sound, is usually the forerunner of a consumption, or shews a strong tendency to it.

I alleged, that tumifying glands compressing the vessels were, most frequently, the cause of a rupture of them, though there should be no certain signs of tubercles
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being yet formed: for these, I believe, may exist a long time in the lungs, without causing any impediment to their motion, or health being much affected thereby. Such a great space intervenes sometimes betwixt a spitting of blood and the real appearances of a consumption, that I cannot imagine ulceration to be, so frequently as is thought, the consequence of the rupture of the vessel not agglutinating, which would sooner discover itself by the circumstances of cough, fever, and purulent spitting. A baker, of a smooth skin and fine complexion, in the beginning of summer, spit a good deal of florid frothy blood. The hæmorrhage stopt, and, by proper diet and management, he recovered, and continued seemingly in perfect health for some months. In autumn he began to cough, a hectic fever came on, and at length he spit matter, and died. The same progress of the disease may be often observed. I have taken notice of it thus particularly, because I think the cause of a consumption, after spitting of blood, is, most commonly, to be sought somewhere else than in the ulceration of the ruptured part; and the circumstance of tubercles is always

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to be kept in view. Though they should not at present exist, we may be assured they are about to form ; for upon dissection they are always found ; and we ought early, by all methods external and internal, to provide, with great care and pains, against such an event.

A dry cough, attended with fever, and sweating, and wasting, gives just suspicion of tubercles ; and some small attempts perhaps are made, often by very inadequate remedies, to resolve the obstruction, and prevent suppuration : here the diagnostic is plain. But in a spitting of blood, ulceration being supposed, in some manner, the consequence of the hæmorrhage, we believe we have satisfied every intention, when we endeavour to heal the rupture, and secure against any farther hæmorrhage ; and these engross so much our attention, that the main intention is overlooked, or it may be altogether unimagined. Besides, the bleeding and cooling methods practised in the hæmorrhage, suspend, for a time, the growth of the tubercles, and the existence of them may not therefore be so much apprehended. We are not, however, to conclude, that
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the danger is over, even when the appearances of blood may have been, a considerable time, over. The latent obstruction, from whence danger chiefly arises, increasing afterwards, by slow degrees, into a confirmed state, shews itself at last the genuine, though less suspected, cause of a mortal, purulent consumption.

There is no class of diseases, in which a certain set of remedies have been more indiscriminately used than a cough and consumption. A cough proceeds from various causes, to which a very different method of cure is required. A consumption is either glandular, or pituitous, or from a catarrh ; and the same treatment would ill agree in them all. I have often doubted whether a practice, which is recommended indeed, and some give into, is always the most proper and justifiable, I mean the use of warm balsamics in a spitting of blood, or after it. They are directed with a view to consolidate ; and upon a presumption that suppuration always does, or may succeed the rupture of the vessel, which, I am persuaded, is rarely the case. The simple rupture of a blood vessel, emptying itself
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into the branchial vessels, for the most part, very soon, I believe, agglutinates, if a due motion and temperature of the fluids is preserved ; and the more readily, as the mild lining mucus of the lungs will answer the purpose of a kindly healing application. But when the blood is shed into the cellular interstices of the lungs, we have a different idea of the distemper ; different indications arise, and a peculiar method seems to be required, in order to discharge the extravasated coagulated blood, resist the putrefaction of it, and dispose the part to heal. Astringents are justly condemned in a spitting of blood, as, by drying too much they are apt to cause heat and inflammation of the part. Pus is the natural consequence of inflammation, when advanced to a certain degree. Now if the hotter stimulating balsamics are exhibited, in such quantity as to produce any effect at all, they undoubtedly will excite more or less of fever, which as certainly will in some degree increase the inflammation ; and what was intended to prevent, it is not unlikely, may rather, in the issue, dispose to purulence. I would not be thought by all this to decry absolutely

lutely all remedies of this kind; there are cases wherein they may be of much benefit: I mean only to caution against a too general and precipitate use of them in this disease. The end chiefly proposed by them, that of consolidating, is so often obtained without them, that I am inclined to think they are very seldom needful; and, before they are brought into use, should be very plainly indicated.

Whether a consumption following upon a spitting of blood, is owing to the rupture of the vessel not healing, or blood corrupting in the smaller branches of the wind-pipe, or the suppuration of tubercles, is not easy sometimes, nor indeed is it very necessary, in the present view, precisely to determine. In any case I shall always believe that I do what is right, and most conducive to health and life, when I advise to go to sea immediately; as no method that has yet occurred to me, seems, in any respect, to promise greater security against a consequence so much to be dreaded. The case of a young gentleman lately, afforded a notable instance of the success of it. He was of a very slender make, and the most delicate

delicate constitution that can be imagined till he was fourteen years of age, so that with the utmost difficulty he was raised into man. Last winter he caught cold; a severe cough came on, with night sweats, loss of flesh, strength, and appetite. No fever could be discovered by the pulse, which was rather flaccid and slow, though the tongue was very white. After a considerable time, and much pains, the cough went almost intirely off, and he recovered a good deal, but continued all the spring pale, languid, and emaciated. In April, while drinking milk in the country, he spit blood twice in no small quantity. He grew sensibly worse, and so weak, that in walking the least ascent overcame him. He went to sea in June. His appetite, which was still bad, increased so much, that it became almost voracious, and he ate without distinction of every thing, and with no regard to quantity. After some days, the ship putting into an harbour, he lived eight days ashore. A few days more at sea carried him to the end of his voyage out. He lived again ashore some weeks in a country place, washed every day with the

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the tide. Here he drank milk, and rode frequently. The ship was only three or four days in coming home. By thus sailing, and living ashore interchangeably, a surprising alteration was brought about. He returned without any complaint; and, having recovered his flesh and spirits, he had now a strong hale look, and a ruddy complexion, and could walk some miles with ease, though, while absent, he had used freedoms in eating, and even drinking, not at all consistent with his natural delicacy, or the weak state of his lungs, yet without hurt. While I am writing this, December 1756, he enjoys perfect health.

The resolving power of sea air can hardly be doubted, when we consider the peculiar composition of sea water, fully saturated with a variety of substances of a very volatile penetrating nature; which impregnating, more or less, the vapour with all their virtues, render it a very active application, which is still farther improved by the moisture and temperate warmth of it. Dr. Russel has, from a number of undoubted facts, shewn indisputably, the great efficacy

efficacy of sea water externally, in resolving glandular tumors. Sea air, therefore, necessarily partaking of the same virtues in the vapour, must be equally suitable to the lungs on the same intentions; and where it can be obtained, I am disposed always, when a sea life cannot be complied with, to make choice of it, as better adapted, in all respects, than common air, to the nature of the disease, and the present state of the part affected. Some trials I made of living near the sea only, I have reason to think were not without effect.

A gentleman, naturally of a delicate constitution, was subject to a cough. The beginning of last winter his wife died of a consumptive disorder, but without any appearance of purulence. His cough increasing, he was deeply impressed with the notion of infection. Fear, grief, and a just concern for his loss, depressed him exceedingly; which, together with the cough continuing all the winter and spring, kept his friends in much pain for him. Proper remedies were not neglected, but I trusted chiefly to a better season for recovery; and as the summer approached he grew somewhat

what better. His affairs would not permit a long journey, or a sea voyage: in consequence therefore of a scheme, I directed sea air, and the use of milk. He rode every morning fasting three or four miles close by the sea, drank asses milk, spent the day, and, after drinking again in the evening, returned the same way. Under this daily exercise, the sea air, he said, was highly refreshing to him; he got a keen appetite and great spirits, and always finished his rides with a strong salt taste from the spray. Thus he spent a month or more; the cough went off, and he regained his usual health; to confirm which, I advised him to drink, for some weeks, a light steel water.

Another affection in which sea vapour, or spray, may, on account of their moistening resolving qualities, be of singular benefit, is callosity of the lungs. Of this we have instances in history II and IV of the treatise, where a constant laborious breathing, if I do not err in the diagnostic, characterised the distemper. When the small glands of the lining membrane of the air-vessels are obstructed from sudden cold, if

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they continue long in this state, and the obstruction does not resolve, they acquire a schirrous disposition; and the air vessels become stiff and unyielding, and cannot be so freely dilated. This must affect the breathing much more than is observed in the case of tubercles, scattered at first only here and there in the spongy substance of the lungs. The effect of sailing, in these cases, exceeded greatly any expectations I had then formed of it; and, in such a degree of the distemper, answered the intention more effectually, I am apt to think, and more speedily, than any other remedy possibly could have done. To this affection some kinds of asthmas, perhaps, bear some analogy.

Two very different intentions, as they respect the lungs, present themselves in a consumption, the removal of the hardneſſes and the healing of the ulcers. Dissections of those that are consumptive, shew the lungs filled with tubercles of various sizes, and in very different states; their whole substance being sometimes a confused mass of glandular swellings, abscesses, and ulcerations. From these circumstances, in
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the progress of symptoms, we determine the different stages of the disease; which, under such a complication, affords a very complex indication in the method of cure. Judging from common practice and the rules of systems, the general current of practice seems to be determined wholly to the cleansing of the ulcers, the sweetning of the fluids, as it is called, and the alleviation of symptoms. The resolution of obstructions, still forming, to the very last, so as to prevent farther ulceration and the consequences of it, is not at all, I think, in this stage attended to. And that this intention ought no less earnestly now to be pursued than in the state of tubercles merely, without ulceration, is very evident. For what do we effect, while busied in deterging and healing those glands that are already ulcerated, if, from the growing obstruction, new abscesses are suffered daily almost to form, by which the ulcerations are continually multiplied, until the lungs are intirely occupied by them? Hence constant new sources, and an increase of purulence, notwithstanding all our endeavours.

Indeed, this intention, the resolving of obstructions, and in every stage of a consumption whilst a possibility of cure remains, is so evidently suggested, and so material, that without a continual attention to it, we shall make but small advances towards a cure. What the proper deobstruents here are, I mean in the ulcerated state of a glandular consumption, we shall hardly be able, from common practice, to learn. Considering the very delicate state of the lungs, and of the whole body, and the many contraindicating symptoms in a consumption, forcible deobstruents internally, are very cautiously, or rather not at all, to be adventured on; and those of smaller efficacy are unavailable: after examining, without prejudice (for if a cure is obtained by any method I have my end) all that have any claim to be regarded on this intention, sea vapour and spray, externally, appear to me the most safe and effectual; not only as they resolve the obstructions, but as they dry and heal the ulcers. This, at least, has been the opinion of those, who formerly have considered sailing as a remedy in this disease; and I shall presume to

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add, that the vapour is undoubtedly anti-septic, and so will correct the purulent disposition of the matter in the lungs, and thereby prevent, on its being resolved, the overbearings of a putrid fever.

The difficulty that was found to convey remedies of a balsamic nature, with due efficacy directly into the lungs, suggested, at first, no doubt, the internal use of them; by which it was supposed that the blood impregnated with them, in the course of circulation, communicated all their virtues to the part affected, for all the purposes of deterging and healing. But if experience proves too fatally, that, when thus administered, they rarely answer our intentions, there is room to suspect, that they are either improper in themselves, or improperly applied, or not of adequate virtues.

It will throw greater light into this matter, if, pursuing a plain analogy, we consider attentively what is done in a parallel distemper, or rather the same distemper differently seated, an external scrophula. It would argue little experience, or little attention, to treat an ulcerated scrophula, to which we can have access by the hand,

with those things which, in ordinary ulceration, long use has discovered to be altogether fit and beneficial. Applications of a particular nature and operation, are found to do most service here, even those of the saline kind. Therefore sea-water, urine, and some medicated waters of a nitro-sulphureous principle, are often, with much advantage, made choice of. These, while they deterge powerfully, are, at the same time, highly resolvent; and, by their drying stimulating qualities, prevent an undue elongation of the fleshy fibres; whence arises that luxuriancy or sponginess, which is so often the chief impediment to a cure. When all this is applied to a consumption, and the use of detergent balsamics in it, we shall not perhaps discern such a propriety in them as hath all along been supposed; and practice shews that their use is very much circumscribed, altogether, I apprehend, to common imposthumations, and ulceration from tubercles of a milder, or less indurated kind. The first step, in order to be right, is to know that we are wrong. If, from a more judicious application of these, and some other remedies,

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on which the greatest stress is laid in a consumption, any have been so happy as to assure themselves, in general, of their good effects, I unfeignedly rejoice, and shall gladly submit to be taught a more successful use of them.

But, in the way of vapour or fumigation, remedies, upon every necessary intention, may be applied immediately, by inspiration, to the lungs themselves, in sufficient quantity, unaltered by any change they might undergo in the course of circulation, and without exciting those hurtful commotions and effects which, if there is any tendency to fever or inflammation, will certainly attend the internal use of them. The method was early introduced into medicine; and it is matter of regret, no less than surprise, that it has always so little obtained. Much caution, indeed, and judgment, will be required in the choice and application of remedies in this way; that they may be at once safe and easy, and of due efficacy, to answer the several intentions of cure, according to the different state and conditions of the ulcers. Decoctions of pectoral herbs, the detergent balsams, drying gums, antiseptics, sulphur, and arsenic, are all directed,

rected, and have sometimes been used. This last, as it contains a very acid salt, and a small portion of mercury, is certainly most effectual to remove the foulness, resolve the hardnesses, and promote a laudable digestion of the ulcers. But as its operation is sometimes uncertain and severe, and may occasion very grievous symptoms, in weaker bodies especially, as the consumptive always are, a milder application is earnestly wished for. The violent, tho' successful operation of an arsenical fumigation, we have a remarkable history of in Riverius, *obs. communicat.* 2. which, tho' it may not be an encouragement to the use of it, shews evidently the powerful effects of it. Even cinnabar, which is perhaps of a less deleterious nature, has sometimes had violent effects too. All this, however, seems to point out (but I have no experience of it) the cautious use of a mercurial remedy, even internally, while the colliquative symptoms are not too far advanced, which slowly and safely may answer the same purposes. Why else is it daily exhibited in various ulcerations of a bad kind? A difference merely as to place, can make no alteration

alteration essentially as to the disease. Upon this important head of applications externally to the lungs, besides what has been said by the ancients, it will give no small satisfaction to consult two moderns of eminence of our own nation, Bennet in his *Theatrum Tabidorum*, and Mead in his *Monita & præcepta medica*.

It might still farther illustrate these matters, with a view to establish a more certain and appropriated method of cure in a consumption, to consider likewise the several internal remedies directed in a scrophula. To enter into a critical examination of these, as applicable in a consumption, and compare them with those now used in it, would be an undertaking too tedious for this place. The transition in such a comparison is easy, and every one will be able, from his own reflection, to make a proper judgment. If there is a plain analogy betwixt the diseases in themselves, methinks, the method of cure should be analagous too. Those indeed who, from a habit of thinking in a particular way, have been long addicted to a certain method, are apt to be partial to themselves,
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in those favourite notions which time has rendered familiar to them; and to cherish a fond reverence of, and attachment to received practices. Medicine acknowledges no standard of orthodoxy but what has its foundation in reason and experience; and there is one argument against the received practice in the disease now before us, which it behoves every one seriously to attend to, and, if possible, remove, the bad success of it.

It is sometimes observed, that a consumption makes a formidable progress, even into the colliquative state, before perhaps a suppuration is suspected, and there is any appearance of pus by expectoration. This seems to happen, when the abscesses are situated remote from the larger branches of the windpipe, or the investing membrane of the glands is so thick and strong, that it cannot be easily broken by the sole force of the distending matter within, in order more speedily to discharge itself. In such a case they languish under a dry cough, and all the symptoms of colliquation, from absorption, or the action of the lungs being impaired. For when there is
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not a due subaction of the blood in them, the globular and serous parts secede from each other; and these last run off by the common outlets, or fall upon improper places. Nature must now be wisely assisted, as safety depends upon a timely evacuation of the matter, so soon as the symptoms shew it to be formed. The rupture, therefore, of the abscesses is by all methods to be promoted: and what method more likely to effectuate it, with less pain and fatigue to the sick, or greater prospect of relief, than the motion and vomiting in failing. See history XIX.

Whether a consumption is curable or not, need scarcely be made a matter of dispute: a little observation will easily reconcile the different sentiments on this head. That some do recover there is no doubt, and were it not that it might appear too sanguine, I would venture to say farther, what has not been often granted, that numbers may be preserved, or life prolonged at least with ease. Not indeed by remedies most commonly in use: experience gives us daily too certain, and melancholy, proofs of their inefficacy. But by such, and
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such only perhaps, as through a groundless timidity, plain neglect, or an useless refinement in medicine, are become suspected by many, or despised, and suffered to fall into a general disuse. At the same time, remedies of no real efficacy, if not hurtful, and, in comparison, utterly insignificant, have, in common prescription, been multiplied to excess; with no other design, one would imagine, but merely to gratify the importunities of the sick, or serve, it may be, a less generous purpose of the prescriber himself. A more attentive review of the disease in its nature and causes, and of the methods of cure practised in it, and the small success of them, will, one time or another, I am persuaded, shew to every one, not wholly led away by custom and prejudice, that an alteration in practice is here necessary. However, when the utmost has been done, a consumption will still remain a very fatal malady. But if a few only of the many thousands, who now must perish irretrievably, can be rescued from their fate, nothing being omitted that art hath suggested, the physician will have his due praise, he will display more conspicuously

spicuously the power of his art, nor shall the disease be deemed so much as hitherto, too justly it has been, the reproach of it.

Thus have I, with much plainness and freedom, for the matter required it, offered a few hints and considerations relating to the cure of a distemper, which, as it is greatly frequent, distinguishing neither age, sex, nor condition, so the mortal havock caused every where by it among us, calls aloud for our greatest skill and attention. After long reflection, and what I hope will be found a sufficient experience of it, I am fully satisfied that sea air is the most proper for the consumptive to live in ; and if the exercise at sea is joined to it, medicine, I believe, cannot furnish a more apt and powerful assistance, in the various circumstances of a pulmonary consumption ; as it has all the effects of an internal alterative remedy, and will answer all the purposes of an external application ; both which, it is evident, are, in the cure of it, alike carefully to be attended to.

There is nothing that is more wanted, and nothing would be of more use, than a rule by which we might be enabled to determine,

termine, with greater certainty, to what a cure is owing. And it is the more necessary, as a very indeterminate one has been sometimes adopted, that if a disease is cured, no matter how it is cured. This maxim admitted, throws a general obscurity into practice, tends, too often, on too slight grounds, to establish a method, and will justify the continuance of every method and remedy proposed by every author, if no better evidence of its utility is required, than that the sick may have recovered in the use of it. Mere empiricism attempts to enquire no farther than present effects and appearances. That the greatest advantage is to be derived from a diligent study of the *juvantia* and *lædientia*, will be readily owned; but it must be acknowledged, at the same time likewise, that, amidst a variety and multiplicity of remedies, it is impossible to determine what does good or ill. To reduce medicine to a true simplicity, is to bring it to a greater certainty. Many remedies are handed down to us with such assurances, and even asseverations of their success, that the fond prejudice in favour of them must be imputed

puted to credulity, the want of due examination, or the vanity, so natural to us, of making a thing our own. For, many times, neither to reason nor experience, do they discover, on an impartial trial, such excellencies as their authors have been pleased to attribute to them. While remedies of obscure virtues, and smaller intrinsic worth, are every day multiplied and imposed, according to custom and fancy, or from the authority of a name, while we suffer them to usurp so often the place of such as are of real efficacy ; medicine, as to the choice of remedies, must remain in a perplexing uncertainty ; and every addition, far from being an useful acquisition, will only increase the number, and leave us to fluctuate, more uncertain and perplexed, in a greater confusion.

It is greatly therefore to be wished, that more positive histories were always given us of the operation and effects of medicines, in a number of experiments sufficient to ascertain their use and efficacy ; and shew, in particular distempers, what is chiefly to be depended on. And here the good and bad effects of them are faithfully to be related,

lated, with the event in every case ; by which only we can estimate the real value of a remedy. A few successful cases, selected from a much greater number of unsuccessful ones, will not long secure the credit of the relation, or of a remedy. Nothing is to be suppressed, nor should any thing be exaggerated. Every partial relation propagates an error, and leads into mistakes of a dangerous tendency, assuredly hurtful, some time or other, to the sick, and a discredit to the art. A vain consumption of time in the use of remedies, very often no ways adequate, retards so much the cures, and the favourable opportunity for a cure being lost, may altogether defeat it.

Not only is a thorough knowledge of remedies, as to their real virtues and efficacy, necessary, but in order to judge more certainly by what means the cure is effected, it interests us to be well acquainted with all the different ways a disease may be cured. This, besides directing us sometimes to a better method of cure, will serve, very much, to abate the too general presumption of arrogating to ourselves the merit of a cure, to which, perhaps, we
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have very little, if any thing at all, by our administrations contributed. It is nature always, to be sure, that cures the distemper; but how often is it cured by nature without the least intervention of art, by time, chance, changes of seasons, former management, and administrations, and sometimes by barely avoiding the causes of the disease?

Having mentioned chance, I shall give an instance of a cure in a very obstinate illness, as agreeable as it was unexpected, and not altogether foreign to the present purpose. A lady, near the end of her pregnancy, had a severe fit of a colic, succeeded by a jaundice. This went off whilst she lay in, but soon returned, and continued four months, her health otherwise being little affected thereby. There was no pain, nor fulness, hardness, or weight, in the region of the liver; the stools were always white, and she was costive. Nothing seemed to have any lasting effect to remove the disorder, and the colour of her skin was growing fast into a deeper yellow. Though, for the most part, she rode, more or less, every day, I advised a journey. In

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her return her horse stumbling, an acute pain seized her on the right side of the belly, which crept slowly along, still lessening, toward the navel, and, in a few days, altogether went off. From this time the jaundice gradually abated, and she recovered. The cause here, I presume, was a stone obstructing the common duct; the position of which was, by the sudden shock and compression, in straining to recover herself, so altered, that it could now, by the exercise and ordinary action of the parts, be pushed safely forward into the intestine. Without such a powerful accident, the disease, probably, must have been, sooner or later, mortal.

Agreeable to reason and the example of the ancients, I shall, in such a case hereafter, make no scruple to advise sailing, which in a jaundice and diseases of the kidneys, they have recommended. The motion of the ship, and retching from the sickness, are well adapted to assist in the expulsion of stones, gravel, or other matters, in the gall-bladder and kidneys, or their excretory passages. And herein we shall imitate nature in those spontaneous vomitings which
happen

happen in icteric and nephritic cases, the efforts usually employed by nature to expell more speedily the extraneous offending substances.

I shall finish what I intended in these remarks on sailing, as a remedy, with two or three histories.

A gentlewoman, after a slow fever, fell into anomalous shakings, which increased into a high convulsive disorder. . The motions were so violent, and various, and universal, that, in times of greater ignorance, she must have been looked upon as a proper subject of exorcism, not of medicine. By proper methods they went off, and for a twelvemonth or more she was intirely free from them. The return of the fever caused a return of the disorder, which was again carried off by the same method. But from a third attack of the fever it became habitual, and would yield to no remedy. Bath was proposed. It was, on many accounts, convenient for her to go by sea, which I the rather encouraged, as it would be an experiment of what sailing would do in such a case. By a train of misfortunes she was driven from place to

place, and suffered sufficiently the hardships of a sea life, the disease still the same, or worse; and when at Bath it grew to a greater height than ever. After drinking the water a few weeks only, as it was not judged proper for her, she returned to her own country by land; and now, for a good many months, and at that season in which she usually relapsed, the disease is ceased, though she has daily some remote feelings of a disposition to shakings.

A black, when fourteen years of age, from a fall, had a depression made in his skull remaining still, which rendered him a good while insensible. After some time he became epileptic for some years. The fits at first came monthly, without impairing his mind, being kept low by a spare dyet. But growing more frequent, he became listless, sickly, and somewhat stupid. His master, being informed by a gentleman, who practised in Jamaica, that when their slaves had fits, a voyage was sometimes observed to do service, sent him to sea. He returned, after nine months, from Virginia, which was the voyage, in February 1756, and continued upwards of
eighteen

eighteen months free from his distemper, till lately, that he has had a slight fit, but is at present a strong, active, sensible fellow.

A gentleman, when young, was several years afflicted with the heart-burn, for which he used all the common remedies, and consulted some of greatest note, but without benefit ; for though he was better and worse at times, the disease, even when least troublesome, continued still greatly to distress him. His affairs carrying him to sea, after being three days on board, it blew hard, which gave him some slight retchings. Since that, he has not had the smallest return of his illness.

In a late constitution of fevers I have made some farther trials of bathing, and with such success as is a sufficient encouragement, in future trials, to extend it to a more general use in fevers of different kinds, especially having the approbation of those whose judgment I ought to regard, who have readily communicated to me their sentiments of it as a rational and useful practice.

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Perhaps there is no remedy that, in the use of it, carries along with it more the appearance of severity and danger, than bathing in a fever ; and yet there is scarcely any remedy that is really more safe, and easily sustained. In all first attempts obstacles will occur ; but the chief objection to bathing will not, I suspect, arise merely from the general aversion to new and uncommon practices. Fear, I own, and a regard to reputation, prevailed long with myself ; others may be determined not to give into it from other motives. Necessity at last prompted me, under an affecting persuasion, at the same time, that, while this remained untried, the despairing patient was not allowed every fair chance for life. The unquestionable benefit which, in most trials of it, accrued from it, soon dissipated the common prejudices against it. It was no longer dreaded as a precarious or dangerous experiment, but, with a sort of wonder, regarded as a more certain and agreeable means of safety and relief, in those aggravated circumstances of fevers which so often elude our greatest industry and

and greatest skill. And when other remedies are found to avail little, or may not be at hand, and the time to produce their effect is short, it is no small comfort and security to the sick, and those about them, to know that there is yet one in reserve, from which, in most cases, good effects may, with some assurance, be expected. It is no small advantage too that it is easily procured, being at hand every where, and all have equally access to it.

The more general and immediate effects of bathing are, that it composes the sick, and procures sleep under delirium, and continual tossing from the want of it. Or, if they lie heavily oppressed from too much sleep, it disposes to be more wakeful. It cools the feverish heat when they are inflamed, and parched through an excess of it, and raises a greater degree of warmth and spirits in those who are languid and cold. It, moreover, as was formerly remarked, restrains the inordinate flow of unnatural sweats, caused by a general spasm and the feverish struggle, and promotes the kindly salutary breathings by the skin when
these

these are wanting. This contrariety will not appear strange to those who know that medicines are possessed only of relative powers ; and that, according to the temperament, the present disposition of the humours and condition of the parts, the same remedy will, in different subjects, produce various and very opposite effects. Nor was it unobserved by the ancients. Bathing, they tell us, is proper in fevers whether hot or cold ; and farther take notice, as a singular circumstance in it, that it allays thirst in those that are dry, and causes it to such who before were not dry. It may be reckoned one constant effect of it too, that the sick recover sooner ; and, to forward recovery, I direct it, even after a crisis, and when the delirium is pretty much gone, to relieve under restlessness, and the fatigue arising from heat, and dryness of the skin, and lying so long a-bed. They find now so much pleasure and refreshment from it, that they have asked sometimes to be put into the bath again, or to continue longer in it. In one lately it caused a large flux of urine.

I am not yet able to determine, whether bathing contributes any ways to hasten a crisis. Nor am I so much prejudiced as to imagine, that it will always produce immediately those great and more sensible changes that have sometimes been observed, or may be expected from it. However, we may, I think, be assured that, applied to in time, it is still working slowly its effect, and by supporting the natural strength, restraining the excess of febrile, or nervous symptoms, and wasting insensibly the matter of the fever, disposes gradually to a calm, healthful crisis. And here no undue force is put upon nature, by sudden and untimely commotions or evacuations; which, when weak and exhausted, the sick are unable to bear, and may be wholly overcome by. On the contrary, they are always evidently restored by it.

When therefore, from the appearance of certain symptoms too early, there is cause to apprehend a greater degree of malignity and danger, bathing may be very usefully advised from the eighth or ninth

day to the fourteenth, or beyond it. Under the continued use of it, in this increasing state, they suffer far less the vehemence of the fever, and consequently are carried, more easily and safely, through a very dangerous, and frequently a mortal, period of it.

F I N I S.

